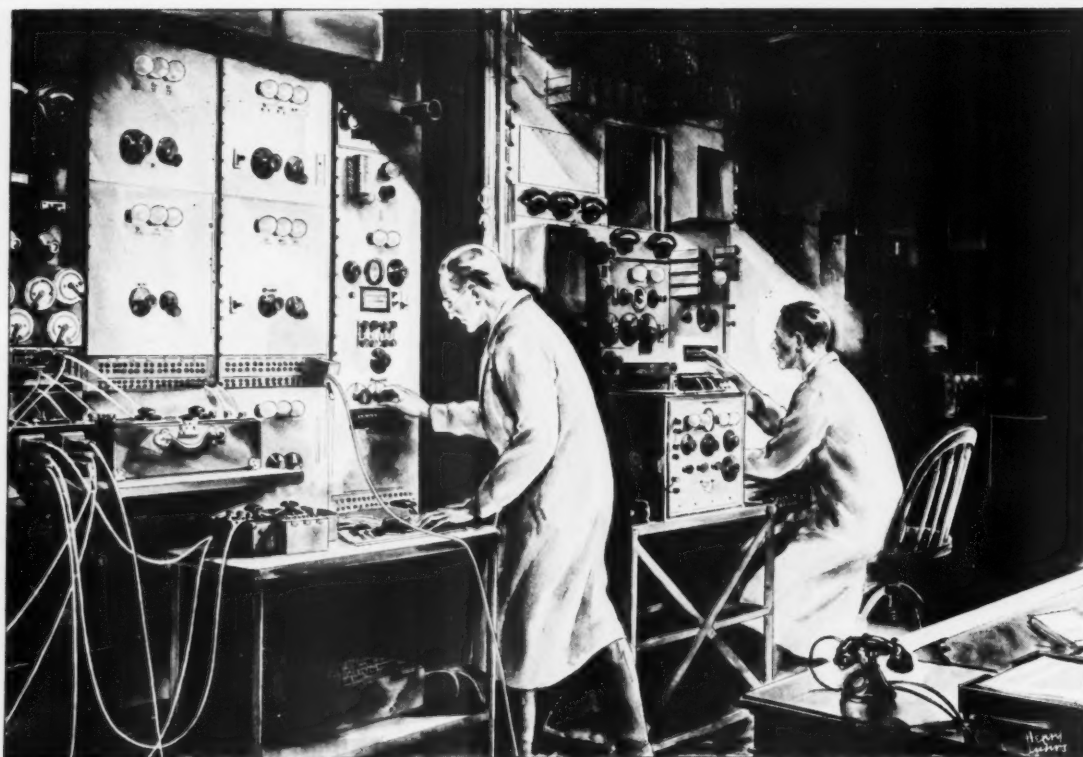


American **FORESTS**



JANUARY 1931

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Photograph by M. A. Obremski

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OVID BUTLER, Editor

L. M. CROMELIN and ERLE KAUFFMAN, Assistant Editors

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The New Year

A Flower unblown, a Book unread,
A Tree with fruit unharvested;
A Path untrod, a House whose rooms
Lack yet the heart's divine perfumes;
A Landscape whose wide border lies
In silent shade, 'neath silent skies;
A wondrous Fountain yet unsealed,
A Casket with its gifts concealed,—
This is the year that for you waits
Beyond Tomorrow's mystic gates.

By Horatio Nelson Powers.



WITH THE NEW YEAR, "AMERICAN FORESTS AND FOREST LIFE" COMES TO ITS READERS BEARING NEW GIFTS. FIRST, THERE IS A CHANGE OF NAME TO "AMERICAN FORESTS"—A NAME BRIEF BUT ALL INCLUSIVE OF THE PLANT AND ANIMAL LIFE AND THE HUMAN ACTIVITIES FOR WHICH THE FORESTS STAND. THEN THERE IS A NEW COVER THAT MAKES IT POSSIBLE TO OPEN WIDER THE CAMERA'S EYE TO THE DIVERSIFIED BEAUTY AND LIFE OF THE FOREST. AND INSIDE THE COVER READERS WILL FIND NEW AND BOLDER TYPE, NEW FEATURES, AND DIFFERENT EDITORIAL HANDLING OF MATERIAL. ALL THIS, WE FEEL, IS IN KEEPING WITH THE WORLD SPIRIT OF NEW AND BETTER THINGS FOR 1931.—EDITORS.



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MODERN LOGGERS

By STEWART H. HOLBROOK

I HAVEN'T heard of a logger putting an especially keen edge on his pet ax and shaving off his beard for a good many years. In fact, in my thirty years' acquaintance with the woods I never saw such a stunt done. Yet that part of the public which absorbs its "knowledge" from hearsay and from reading fiction stories, still has the idea that loggers are great, uncouth imbeciles, fellows given to such crude barbering, if ever they shave at all. This public also believes that loggers, all of them, wear red woolen underwear and thick, gaudy mackinaws; sleep on hay or on fir boughs; eat nothing but salt pork, baked beans and johnnie cakes; and do little except drink hard liquor and stamp out each other's eyes with caulked boots.

These and other like opinions regarding the logger are

so widely held that it would be disastrous to a popular five-cent weekly or any of the pulp-paper magazines to allow their readers to know the truth of the matter. The legend of the cursing, fighting, illiterate, sapheaded logger continues to be carried on by writers who apparently have never seen a logger or a logging camp. I suspect that the legend will probably endure as other superstitions do. And I regret it greatly; for the logger of 1930 is just as advanced in his thinking, his method of living and his general standards of civilization as are workers in other industries. In fact, the logger is on a plane far above that of the average factory worker in the great industrial centers, and he is in no manner to be compared to the greatly overrated cowboy, or to the peasants of the Middle West.



John D. Cross

A modern logging camp is not so picturesque as the old-timers. It is more like an Army barracks than anything else, built on car trucks and movable when the timber thins out.



Arthur M. Prentiss

In the great forests bordering the Columbia River in 1896 a five-yoke team of oxen was really something to see. The skid-greaser is reaching for a full can of grease to oil the skids.

In July I spent a few days in a logging camp in the Pacific Northwest. It was an average camp; no worse and possibly slightly better than the general run of camps in this section. In the commissary of this camp I saw a good supply of scented talcum powder, hair grease, fancy writing paper, fountain pens, soda pop and rayon underwear for men. If this doesn't indicate that there have been changes in the life of the lumberjack, then what is to be said about a fine and well-patronized tennis court in a logging camp? There was one at this camp; and I know of at least four others. Then, there isn't a camp in the Pacific Northwest that hasn't good shower baths as part of its equipment. They are used, too. And so are the camp reading rooms, radios and camp movie houses.

It is true that the logging industry in other parts of the country has not kept up with the pace set by the Pacific Northwest. As late as ten years ago things hadn't changed a great deal in the northern New England woods. When I was discharged from the Army following the World War I went to work immediately in a New Hampshire camp not far from the Quebec border. It was similar to the camps my grandfather operated right after the Civil War. The crew lived in one large room known as the barroom. A hundred or more men slept jammed together in what are known as muzzle-loading bunks, so-called because they were entered over the foot, or muzzle. The bunks were double-deckers and were made of poles, with loose straw for

a mattress, and with huge and dirty sougans for covers.

The cookhouse, or combined kitchen and dining room, was under the same roof, but partitioned off by a thin board wall. The cook and cookees slept in one corner of this room. All the floors were of poles, down the cracks of which were swept the daily refuse.

The plates and tea dippers were of tin. The forks were of the old black, three-tine sort. The food was ample, though not of great variety. When there was a *good* cook, the fare was far better than in the Army. For breakfast there was oatmeal, hotcakes, salt pork or cheap bacon, eggs that had been long but unsuccessfully cold-stored, burned bread—called toast by the cook—or johnnie cake, and tea or coffee. Dinner, if in camp, was pretty good, with meat, potatoes and pie. If eaten in the woods, as so often it was in winter, it didn't really matter what the meal was; it was frozen almost solid by the time the men got it on their plates. For supper the cook let himself go and offered a pie or pudding. At every meal, of course, there were baked beans, usually extraordinarily fine.

There were no such things as sanitary arrangements of any kind. Faces and hands were washed in a tin basin with water dipped from a pail a-top the barroom stove. The water was then thrown out the door. If the men wanted to "boil out," which means washing their clothes, they went down to the brook, cut a hole in the ice, filled the black iron kettle with water, made a fire with wood they cut, and there

boiled their clothes. Boiling, I might say, was necessary. If one wanted a bath, why, he waited until spring.

The camp was lighted, if lighting it could be called, by a few oil lamps, very dirty and very smoky. Reading in a bunk was impossible, unless the men owned lanterns, and even then they had to be put out at nine o'clock, lest the light keep others awake. Social life was confined to sitting on the long deacon seats, which ran along in front of the bunks, and talking or listening to talk.

These old-time camps, of which there are far too many left in the United States and Canada, are picturesque places to see and read about, but they are not much pleasure to the men huddled within them. The clothes of a hundred unbathed loggers hanging from the cross-poles, the old and dirty blankets, the gloom, and the lice, these are most real but not pretty things.

As the loggers moved westward from New England—that is, the main body of them—their lives improved slowly. Camps of the Lake States in the '80s and early '90s were little better than those of the East. Then the pine began to cut out, along about the turn of the century, and the big operations sought new fields in the Pacific Northwest. Here, at first, the camps were slightly better than those in the Lake States, but they left much to be desired. Yet the improvement was constant.

Soon, the big one-house camps began going out. Bunk-houses for sixteen or twenty-four men were built, separate from the cookhouse. The muzzle-loading bunks disap-

peared; each man had a bunk of his own, with another man sleeping in a bunk over him, high-lead or double-deck style. Straw ticks, such as the Army uses, were introduced. The variety and quality of food increased.

While all these things made logging camps vastly better places in which to live, they were not enough. Men still carried their own blankets with them. Sanitary conditions were poor. The introduction of high-speed machinery, in place of the horses and plodding oxen, speeded up work to such an extent that ten hours came to be considered too long a work-day. And it was too long. Strikes, both spontaneous and unorganized, rocked the industry at various periods between 1906 and 1917 in the Northwest. The situation became so serious that in 1917 the Government took action. General Brice P. Disque was put in charge of spruce production for the Air Service.

Meeting together, employees and employers formed the Loyal Legion of Loggers and Lumbermen. Its first official action was the establishment, in the Northwest, of the eight-hour day. It is still in force in all but two logging camps in the district where the 4L, as the organization is known, functions. The 4L also aided in doing away with the old-time blanket roll. All camps now furnish bedding, including sheets and pillowcases, changed weekly, for which a small charge is made. Although a minority organization, the 4L continues as a powerful factor in setting wages, working conditions and living standards in the camps and mills of Oregon, Washington and Idaho.



Harold M. Brown

Logging in 1930 style. Now a tower skidder and loader, run by steam and not by oxen, brings in the big fir logs and slaps them on flat cars before you know what has happened.

With the introduction of machinery into logging, and the consequent passing of oxen and, to a certain extent, horses, the industry lost much of its color. A five-yoke team of oxen, or bulls, as they were called, was something to see and remember. There was the clanking of chains and wailing of ox-bows, the clear, ribald voice of the buckeroo, urging, goading and encouraging his team with some of the choicest profanity ever conceived by man.

Great donkey engines and skidders, set in a maze of cables and rigging, now yard the big Douglas fir of the Northwest. They yard it and load it upon flat cars before you realize what has happened. Steam and wire rope are the sinews of logging. Big locomotives transport the logs in long trains to dumping ground or saw-mill. Even the felling and bucking of timber, just about the only hand operation left, bids fair to be done by electrically driven saws now being introduced in the woods. Machinery has such a hold on modern logging that the high-climber is the only spectacular logger left. He is the fellow who, with spurs and belt, climbs the tree selected for a spar or yarding tree, limbs it, saws off its top, and prepares it for blocks and tackle. Sometimes he uses dynamite for topping; either by saw or dynamite the business is well worth the seeing.

The woods has a language of its own, much of it comparatively new. *Fallers* and *buckers*, respectively, cut the timber and saw it into short lengths; they work under a *bull-bucker*. The yarding crew is in charge of a *hook-tender* and is composed of *chasers*, *chokermen*, *rigging-slingers*, and a *whistle-punk*, who, with jerk-wire or electric whistle gives signals to the yarding engineer, often out of sight of the yarding crew.

The railroad track gang are *gandy-dancers*, bossed by a *king-snipe*. The camp foreman, of course, is the *push*. The superintendent of a logging operation is the *bull of the woods*.

A *highball* camp is one where work is speeded too much. *Haywire*, now adopted in general speech, means almost anything that is worthless in the mind of the user of the term. A *bum show* is where timber is poor or logging difficult. *Gyp* is piece-work or contract-work; it is also termed *by the mile*, *by the inch*, or simply *bushel work*.

A member of the I. W. W. is a *wobbly*. A *hoosier* is a man who doesn't know his job. Horses are *hay-burners*. A teamster is a *hair-pounder*. The *bull-cook* doesn't cook at all, despite pulp-paper writers, but is the chore boy around camp. A *cookee* or *flunkey* is a cook's helper.

A modern logging camp may not be so picturesque as were the old-timers, but it makes up in comfort what it lacks in color. The 1930 cookhouse is something at which to marvel. The kitchens are clean and are as well equipped as those of a first-class hotel. The cook doesn't sleep in the kitchen any more. Electric refrigeration is now a common thing. Tin plates and iron forks are distinctly passé. The cookhouse has a considerable staff in the better camps—cook, second cook, baker, dishwasher and several flunkies.

Supplies for the logging camp table have kept pace with other improvements. The variety is astounding. There is always a good soup, never less than two meats—generally three—two kinds of bread, and Swedish hardtack, and cakes, pies, and puddings. I've eaten many camp meals of thick steak and French-fried potatoes. Oyster stews, clams, crabs, chicken, turkey—all these are served in season.

Fresh vegetables are there when fresh vegetables are to be had. In the winter there is plenty of canned fruit. In the summer there are fresh strawberries, raspberries, plums and peaches. Tea, coffee and often fresh milk are served at every meal. Condiments include the best grades of Worcestershire sauce, catsup, mustard and horse radish. Some

concerns lose money on their cookhouses; some make a profit. In any of the Northwest camps you get a meal for forty or fifty cents that you couldn't get in town for less than a dollar and a half.

Modern bunkhouses are built on car tracks, so they can be moved to the next setting, and accommodate eight men or sometimes only six men. The double-decker bunks are becoming scarcer every day; most log-

gers have a bunk to themselves and may lie and look at the ceiling, not at another bunk. All the bunkhouses are electrically lighted. Bedding is of good quality and is kept clean. Many concerns have installed steam heat, but the big barrel stove is still much in evidence.

There are tables for reading or card playing. All the larger camps have a recreation room or hall. Here are pool tables, radios, late magazines, books and writing desks. Many camps have moving pictures several nights a week.

No camp is complete without a bathhouse and a house for washing and drying clothes. Flush toilets are commonly found. The camp itself looks more like a small Army cantonment than like the traditional (Continuing on page 62)



Harold M. Brown



The modern logger lives better than do many city dwellers today. A glance into the dining room, just before "eats"; and, above, a corner of a modern logging camp bunkhouse, with lockers, radiators and all comforts for the men.



SQUARE ten miles, and circle it with a chain of hills, smooth it into meadows and softly rising eminences, and around it and through it cut a river with tributaries and numerous creeks, and here and there a spring. Put far out at the northwestern corner a little waterfall, and, farther still, a great waterfall with the waters at floodtime tearing down the worn path of the river to the sea. Cover the whole with North American trees so thick in spots that the sun cannot penetrate nor the grass grow, and you will have such a place as the District of Columbia was before its invasion by white men.

Trees of original growth they were, the heritage of millions of years—walnut, oak, beech, bald cypress and tulip tree, and many more. It is conceded that great numbers of persons must of necessity displace forests to a reasonable extent, yet no one will dispute that little regard was had for the preservation and perpetuation of our

Washington, the City of Trees, is Known Throughout the World for Its Intriguing History and Beauty. In this Article, the First of a Series of Four which will Appear Monthly, Miss Borah Presents for the First Time the Comprehensive Story of the Beginnings of Tree Appreciation in the Capital City of America.—Editor.

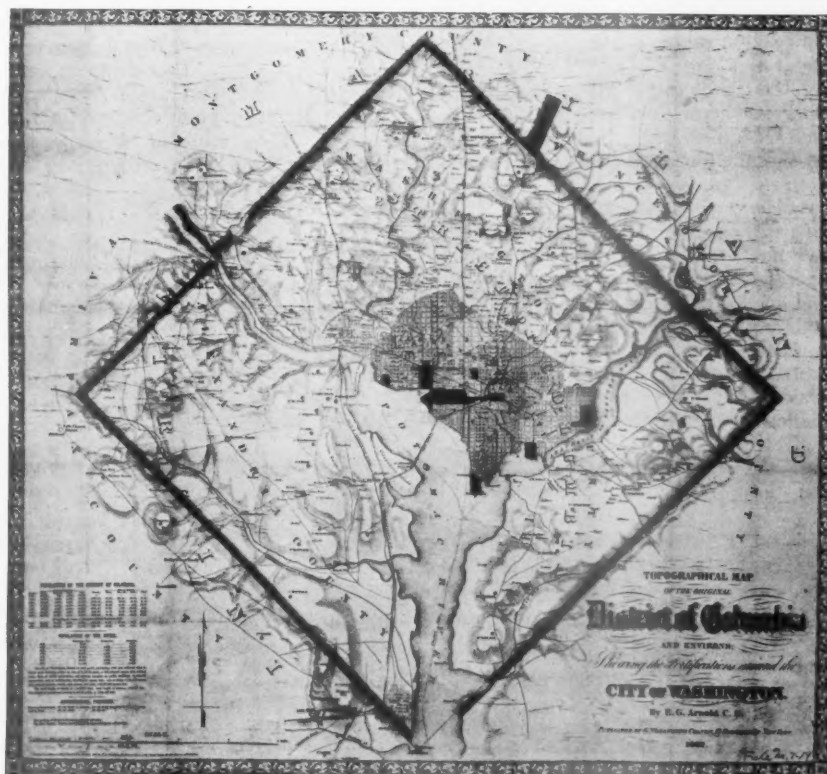
City. Even before the stones were set, the slashing had begun. The lines were defined by felling all trees within

original forests, until recently. A limited area, but an outstanding example of the general indifference to the true significance of the heritage of trees is that portion of the country which was bounded in 1791 by the milestones of the Federal

twenty feet of them—a forty-foot swath forty miles long, a herculean task in itself and an unheard of procedure but one which drew no word of protest from any quarter. Had a colonial planter chosen the site for a tobacco field instead of for the surpassing beauty of its scenery—and that means trees, too—the wholesale removal of them which followed could not have been more thorough.

When the lots adjoining the Capitol Building were sold by the

original owners to the government, these owners retained possession of all trees thereon, and, in their haste to sell



A map of the District of Columbia as it appeared in 1862.

them off before the government should dispose of the lots again, such noise and confusion arose in the resultant, as L'Enfant phrased it, "lumbering of the local," that prospective buyers of the lots could not be persuaded to venture close enough to consider purchase lest a falling tree catch them unaware. This led to failure to raise the necessary funds to complete the building program of the Federal Government, a failure which George Washington had himself attempted to lessen by purchasing a number of the lots out of his private money. He acquired, in 1798, one by cash from Daniel Carroll and another from the District Commissioners in three equal payments over as many years of lots six and sixteen in block 634 north of the Capitol Building on a hill that was doubtless the nearer bank of the Tyber River. Where Administration Hall No. 2 of the World War government hotels for women was erected in 1918, he had built at a personal cost of "\$15,000 at least" what was known as "The General's House," designed as a place for members of Congress to lodge and board during sessions; and, to the south of this house, he is said to have planted an elm tree. It is this tree, removed doubtless with the hill when the river was buried, that has become confused in the mind of the public, aided by the criers on the sight-seeing buses, with the so-called "Washington Elm," east of the Senate wing of the Capitol.

For some time after 1800, the year of the removal of the seat of government to the Federal City from Philadelphia, the new city presented a sad appearance. Inchiquin, a Jesuit priest, who resided in Washington at that time and for several years afterwards, wrote a friend in Paris, saying that "the foundations of this Federal City have not been laid under prosperous auspices . . . and the symptoms of premature dilapidation appear when the implements of construction are not yet taken away. A few scattered hamlets, many miles remote from each other, compose all that has arisen from the promised metropolis; while as many vast, half-finished piles of building, at great distances apart, from commanding eminences frown desolate and despairing on the dreary wastes that separate and environ them. Till lately the city was thickly wooded . . . but much of this ornament has been cut down for fuel, leaving, however, enough for shooting grounds to amuse those addicted to sports of the field."

The "dreary wastes" were the commons where, without let or leave, farmers turned their horses and cattle loose in

summer. One of these was Lafayette Square, which had been David Burnes' orchard until George Washington and the city Commissioners prevailed upon him to part with his holdings for the President's palace and for other purposes.

Neglected, the orchard became a common and in 1826 a wood fence was put around it. Not until a number of years later was it graded and planted to trees, records W. B. Bryan in his "History of the National Capitol." The stretch between the Capitol Building and the President's house was described by De Baillie Warden, writing in 1816, as "extending toward the river, destined for a public walk, admirably fitted for this purpose, but the oaks and other forest trees with which it was adorned, have been wantonly destroyed by a spirit which will never cease to excite disgust and indignation." Venerable oaks that shaded a fine spring at the foot of Capitol Hill, near to Pennsylvania Avenue, were, he declared, "cut down by barbarian hands, which did not even spare the honeysuckle, eglantine, and other flowering shrubs." The Mall, as long a time as until the year 1841, was wholly unimproved and the section just west of First Street resembled a "Sahara of solitude and waste—appropriated as a cow pasture and frog pond and decorated with a stone-cutter's yard, a slaughterhouse and pig pens."

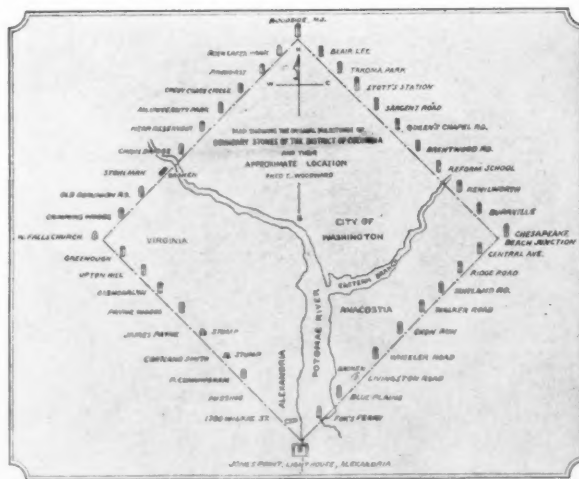
When Thomas Jefferson became President, he undertook to mitigate

the bareness of Pennsylvania Avenue from First Street to Fifteenth Street by planting a row of Lombardy poplars on each side. These afforded no shade, however, and had no other virtue than to be ornamental. Passersby, afoot or horse, knowing no appreciation of either ornament or usefulness as related to anything so negligible as trees, abused them in thoughtless, careless ways until finally a law had to be passed for the replacement of the trees and fining persons found mistreating them or allowing their animals to do so.

It has been justly stated that almost every improvement in the artificial scenery of Washington, after it had been robbed of its natural beauty, was due to the indefatigable industry and unfailing taste of Mr. Jefferson. "He planted its walks and strewed its gardens with flowers. He was rarely seen returning from his daily excursions on horseback without bringing some branch of tree or shrub, or bunch of flowers for the embellishment of the infant Capital." It was remarked, also, that among his favorite trees was the willow oak and that he was "often seen standing on his horse gathering the



Pierre L'Enfant, engineer and builder, the man who dreamed, with Washington, of a "city of trees"—the National Capital to be—and out of whose dream the Washington of today has grown.



Copy of a very old map of the original "ten square miles," showing the old milestones of the District.

Courtesy Fine Arts Commission



The unfinished Capitol building, seen through the vista of green trees lining Pennsylvania Avenue, back in the beginnings of the Nation's Capital.

acorns from this tree. He had it in view to raise a nursery of them which, when large enough to give shade, should be made to adorn the walks of all the avenues in the city." The planting of the Lombardy poplars was a concession to their "most sudden growth." They were all planted under his own direction and often he "joined in the task with his own hands."

The present comprehensive plans for glorifying the Capital City would have brought him a rare happiness, for he always "lamented the spirit of extermination" which has "swept off the noble forest trees that overspread Capitol Hill, extending down to the banks of the Tiber, and the shores of the Potomac." He felt the loss was irreparable, "nor can the evil be prevented. When I have seen such depredations, I have wished for a moment to be a despot, that, in the possession of absolute power, I might enforce the preservation of these valuable groves. Washington might have boasted one of the noblest parks, and most beautiful malls, attached to any city in the world."

A quickening of the civic spirit was apparent in the District of Columbia following 1814, the year the British Army occupied the city and burned the two wings of the Capitol Building, together with the "General's House," the Library of Congress and the White House, to the ground, with the same amiable purpose that, fifty years later, actuated the destruction of the summer palace of China's dowager queen, on the other side of the globe. The citizens now began to appropriate cautious sums of money for grading, draining of streets and morass and, remarkably, for trees. On August 3, 1815, a city ordinance called for an appropriation for street trees in which 400

were stipulated for Pennsylvania Avenue between the Capitol and the President's house, says Mr. Bryan, and in this year the course of the Tiber River was changed to flow over the Avenue into the Botanic Garden, where, he tells us, it went out again at the west gate to the Mall and at Third Street emptied into the Canal.

The twenty-two and one-half acres of ground about the Capitol Building were inclosed by a tall iron railing similar to the one that until 1923 surrounded the Botanic Garden. The circular road outside the grounds is preserved in the paved way that still skirts the lower side of the grounds. But in those early days one could not go from New Jersey Avenue to this road. The banks of the Tiber were too high. Nor could one cross at Indiana Avenue, for there another stream came into the Tiber from Third Street to below Second Street. The "Tyber" River, as shown in L'Enfant's plan, was to emerge from beneath the foundation stones of the Capitol dome and fall in cascades a

hundred feet to the bottom of the hill. L'Enfant's plan also called for trees. Trees, to be exact, were of the essence, adorning and accenting the geometric squares and triangles throughout the city, which were to be held together by long, double lines of trees. Pennsylvania Avenue came in for four lines of them from Benning Bridge to the Capitol, and on to Washington Square at 25th Street.

After this flurry in civic betterment, a lull came that lasted until 1849—when Pennsylvania Avenue was again planted with trees. But this time it was first graded and sycamores were employed. They have weathered the human storms fairly well, although now a little peaked-looking from the oversupply of carbon they must transmute into



The great unfinished dome of the Capitol, rising in majesty above the tree-lined banks of the River Tyber, which in the early days flowed at its feet.

oxygen every day. In the year just mentioned, the grounds of the Capitol were extended to B Street and now included the Botanic Garden, relic of the Columbia Institute; the unwholesome Mall was inclosed by a board fence from 7th Street to the Potomac River, and graded and planted with trees. The space south of the President's house—now the Ellipse and a delight to the eye, but heretofore an unsightly view of refuse and deep holes—came in for its measure of grading and tree planting.

There had, however, been no general effort toward the restoration of the city commensurate with her one-time estate until the year 1872. In that year the first Governor of the District of Columbia was appointed and presided over a board of five members, with Alexander R. Shepherd as

the aspect of parks. It was like the advance of a beneficent green army. Street after street became alive with trees. Any tree that languished and died from the many causes that affect a young tree was at once replaced by another hardy enough to live through to maturity. Spurred by the exhilarating results, Mr. Shepherd ordered the lines continued out along what were then country roads, where, he was reminded, no one would ever be likely to see them, out beyond, miles beyond Boundary Street, afterwards Florida Avenue. L'Enfant's plan contemplated but four miles square of the total ten miles square of the District, as originally surveyed by Andrew Ellicott. In the promotion of his plan, Mr. Shepherd appointed a commission of horticulturists, who served without compensation. These men,



Courtesy Fine Arts Commission

This old print, looking west from the Capitol Building, shows the double row of poplars planted on Pennsylvania Avenue by Thomas Jefferson when he became President. Being a lover of beauty the barrenness of the city distressed him, and the poplars were planted under his personal direction because they gave quick results.

the vice-president and executive officer. The board never met regularly so Mr. Shepherd acted independently; and it is to this circumstance more than to any other that the District owes the beginning of the return of its trees. He revised the picture as President Washington and Major L'Enfant beheld it. And more completely. For he proceeded to provide water mains and adequate sewers, and to grade the streets; then, finally, he began to plant trees—trees and trees and still more trees until the District fathers rushed upon him and took away his power. In the meantime, he had become governor himself, and his continuing zeal for making Washington a city of trees threw these same fathers into another panic. They went into a huddle over it and executed a play that won the day for them.

They changed the form of government. But not before Mr. Shepherd had set the city firmly upon the tree-lined road to its destined place. Under his direction those odd little triangles and open spaces in the city ceased to function as catch-alls for rubbish and ashes and assumed

aware of the hostility openly manifested against the project, selected only softwoods because of their rapid growth. Yet it is to be noted that two lines of pin oaks of a size that point to a growth of fifty years, more or less, grace Connecticut Avenue for a block or two about 27th Street and Woodley Road.

The commission was, after a few years, forced to the conclusion that softwoods were not adapted to city planting as they threw out large surface roots that had a fashion of lifting pavements, winding themselves around drain pipes and bumping into roadways.

Under the expert supervision of the late Clifford Lanham, Superintendent of Trees and Parking in the Capital until his death in the late summer of 1930, even the softwoods have become "city-broke." The elm, for example, which is known to have spread its roots at times 50 yards beyond its stem, he tamed to a single taproot and planted along the new curb line on each side of Connecticut Avenue, from K Street to Dupont Circle, to replace the old trees that were removed

when the pavement was sliced away. The changed mode of travel demanded a change in the width of thoroughfares and the old trees had to go.

Time has brought justification to the belief of Mr. Shepherd in the destiny of the city he loved. The streets everywhere, except on a few downtown blocks, may be found "robed and ready" for judgment. Superintendent Lanham, in his report for the fiscal year ending June 30, 1930, gave the total of curb trees at 112,374. It is to be regretted that any street should be without the friendly presence of trees, and especially so in a semi-southern city, where shade is needed and welcomed much of the year. It is seriously predicted that we face the possibility of treeless city streets, what with gases from automobiles overburdening the trees themselves and concrete spread everywhere over the floor of the city, preventing air and moisture from reaching the soil beneath.

The privilege of living in this city of trees and open places is further heightened by its proximity to one of the most beautiful and historical parks in the world, namely, Rock Creek Park. The "girdle" of parkways planned to flank the new memorial highways around the District will cover an area which has remained almost as wholly undeveloped as when George Washington with a few friends set out from

his home in a thirty-foot tulip tree log up the Potomac to choose the site for the Federal City. The parkways are to be known as the Mount Vernon Memorial Highway and the George Washington Memorial Highway, the former to extend for fifteen miles from Mount Vernon, perhaps the most cherished historic treasure in the Republic, along the Potomac to where the new Memorial Bridge spans the river at the Lincoln Memorial, another hallowed spot, on one bank, and Arlington Cemetery, making a third, on the other. From here the Washington Memorial Highway runs, on the Maryland side, to Fort Washington, and, on the Virginia side, to Great Falls.

The appropriation of \$33,500,000 carried by the Cramton-Capper bill, which passed both houses in 1928, was made available by the signature of President Hoover on May 30, 1930, and provides for the construction and maintenance of these roads and parkways.

(Perhaps no city in the world has more famous and historic old trees than Washington—trees that are linked with the lives of both American and European pioneers and statesmen. In the February issue Miss Borah will present the first of these old trees, many of which are still standing.)

Presenting a New Service—and Fred H. Kiser

TO STUDENTS of photography and to the novice who would like to make better pictures on those frequent pilgrimages into the outdoors, *AMERICAN FORESTS* is happy to announce that, beginning in the February issue, it will present a new service of unusual value—a department devoted to outdoor photography, conducted by perhaps the greatest camera artist in outdoor America, Fred H. Kiser.

Constructive, enlightening and inspiring, the chapters Mr. Kiser will present monthly will cover not only the technique of photography but will give the readers of *AMERICAN FORESTS* an opportunity to develop a finesse in composition and effects. Fred H. Kiser's artistry is world-known, and to share his genius is an opportunity no one interested in outdoor photography should miss.

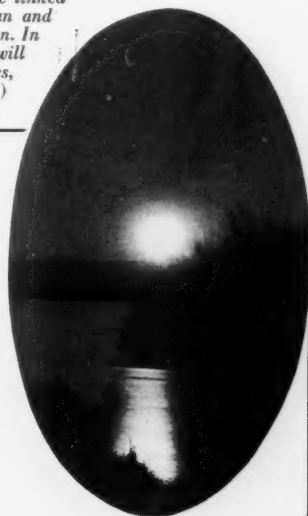
A lover of mountains, valleys, lakes and streams, Fred H. Kiser has thirty-three years of photographic experience behind him, and is still as enthusiastic as ever in producing pictures which truthfully typify outdoor beauty. He was the first in the United States to portray mountains in hand-colored-in-oil photographs

for quantity production, and still maintains the lead in that line. He was the authorized photographer for Crater Lake National Park and has donated many hundreds of his best subjects to the National Park Service. For six years he was official photographer of the Great Northern Railway, and during his early work in the Rocky Mountains established trails through strategic sections in what is now Glacier National Park. His entire collection of photographs, colored in oil and made in this region, was exhibited before Congress in Washington, D. C.

In 1906 he was field representative of the Mazamas of Portland, Oregon, one of the greatest mountain-climbing clubs in the world. In recognition of his exploits on Mt. Baker, one of the mighty glaciers on the difficult mountain was named Kiser Glacier.

Mr. Kiser has undoubtedly the greatest collection of photographs ever made of Mt. Hood, Mt. Washington, Mt. Jefferson and many other of the great snow-capped peaks in the West. Besides many mountain lakes, his collection includes thousands of photographs of floral meadows and beautiful streams and waterfalls. And always there is the forest, for Fred H. Kiser is an artist who enjoys his life's work, and knows the forests for their glorious and majestic settings.

In addition to this monthly service, *AMERICAN FORESTS* has arranged with Mr. Kiser to publish many of his pictures, some of them in natural color.



PRESIDENT APPOINTS TIMBER CONSERVATION BOARD

PRESIDENT HOOVER on December 6 announced the membership of the new National Timber Conservation Board, a presidential commission to deal with economic conditions of overproduction which threaten the security of the forest industries and obstruct private practice of forestry. Secretary of Commerce Lamont will serve as chairman of the Board, which will hold its first meeting in Washington on January 7. In addition to Secretary Lamont, Secretary of Agriculture Hyde and Secretary of the Interior Ray Lyman Wilbur, the Board consists of the following: George D. Pratt, of New York, President of The American Forestry Association; John C. Merriam, of Washington, D. C., president of the Carnegie Institution; John W. Blodgett, of Grand Rapids, Michigan, chairman of the board, Blodgett Company, Limited; D. C. Everest, of Rothschild, Wisconsin, former president of the American Paper and Pulp Association; Carl Raymond Gray, of Omaha, Nebraska, president of the Union Pacific Railway Company; Charles Lathrop Pack, of Washington, D. C., president of the American Tree Association; John H. Kirby, of Houston, Texas, former president of the National Lumber Manufacturers Association; W. M. Ritter, of Columbus, Ohio, president of the W. M. Ritter Lumber Company; L. J. Taber, of Columbus, Ohio, master of the National Grange, and Paul G. Redington, of Washington, D. C., president of the Society of American Foresters, and director of the United States Biological Survey.

The creation of the Timber Board is the outcome of an effort to improve the economic position of the natural resource industries with respect to balance of supply and

demand, the importance of which was stressed by the President's Committee on Recent Economic Changes. The forest industries and foresters, it is pointed out, have long been agreed that chronic overproduction is one of the major obstacles to commercial reforestation and the practice of forestry, as it is practically impossible for industries which are not prosperous to launch up the long-time undertaking of forest management.

This almost chronic condition of overproduction has pervaded the forest industries for the past decade or more and is plainly becoming progressively worse instead of better. It is threatening the forest industries with economic chaos, it was said. It is contributing to destructive lumbering, the unnecessary waste of timber and wood in logging and milling operations, and the premature exploitation of timber reserves needed in the future. It is having a deadening effect upon forest-land values and the practice of commercial forestry. It is driving forest land from the tax rolls of many states with serious effect upon local and regional prosperity. It is making for insecurity of employment and is a serious obstacle to sustained land use, fire protection of productive forest areas, and to a permanent supply of timber as a raw material important to industry and commerce.

The creation of a Timber Board was proposed to President Hoover last spring by leaders in the forest conservation movement, representatives of agriculture, owners of timber-land, and the lumber and paper and pulp industries.

The proposed task of the National Timber Conservation Board is to compile the important facts of production con-



Secretary Lamont,
Chairman of the Board.



George D. Pratt.



Secretary Wilbur.



Secretary Hyde.



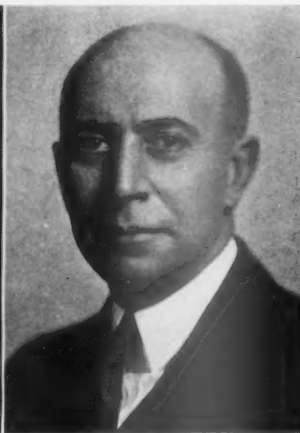
Dr. John T. Merriam.



John H. Kirby.



William M. Ritter.



D. C. Everest.



John W. Blodgett.

ditions and trends in the forest industries, analyze and interpret them and develop recommended policies and programs of public and private action, which may secure and maintain an economic balance between production and consumption of forest products, and lead to the perpetuation of the forests and the industries based on the use of timber. It is not expected, it was pointed out, that the Board will attempt to frame any broad national forestry policies.

In addition to the three Cabinet officers, members of the Board have long been leaders in forestry, industry, and in public life. George D. Pratt has been President of The American Forestry Association since 1924, and at one time was conservation commissioner of New York State. Dr. John C. Merriam, an outstanding American scientist, has been president of the Carnegie Institution since 1920. Prior to that he was associated with the University of California as dean of faculties. From 1924 to 1928 he was vice-chairman of the National Conference on Outdoor Recreation. He is a member of the Board of Directors of The American Forestry Association. Paul G. Redington, president of the Society of American Foresters, and director of the United States Biological Survey, was graduated from the Yale Forest School in 1904 and served until 1926 with the Forest Service. He is former vice-president of the Washington Academy of Sciences. Charles Lathrop Pack, president of the American Tree Association, and a past president of The American Forestry Association, is the founder of the Charles Lathrop Pack Forestry Trust. He is the author of several books on forestry and forest conservation.

John H. Kirby, president of the Kirby Lumber Company,

is a past president of the National Lumber Manufacturers Association and is now a member of its Board of Directors. He is chairman of the Central Committee on Lumber Standards and a past president of the Southern Pine Association.

W. M. Ritter, chairman of the board of the W. M. Ritter Lumber Company, played an important part in the organization of the National Lumber Manufacturers Association, and is a former Director of The American Forestry Association. During the World War he served on the Council of National Defense and on the War Industries Board. John W. Blodgett is a former president of the National Lumber Manufacturers Association and is at present a member of its board of directors. D. C. Everest, past president of the American Paper and Pulp Association and president of the Marathon Paper Mills Company, has been actively associated with the pulp and paper industry all his business life.

Carl R. Gray, president of the Union Pacific Railway Company and member of the executive committee, Western Association of Railway Executives, is a trustee of Maryland College of Agriculture. L. J. Taber, master of the National Grange, was a member of the Hoover Wheat Price Commission in 1917 and of the Ohio Council of Defense in 1918. He has served as Director of Agriculture for the State of Ohio and as trustee of the Ohio Agricultural Experiment Station. He represented the United States at the International Institute of Agriculture in Rome, Italy, in 1926. He is a member of the Board of Directors of The American Forestry Association.



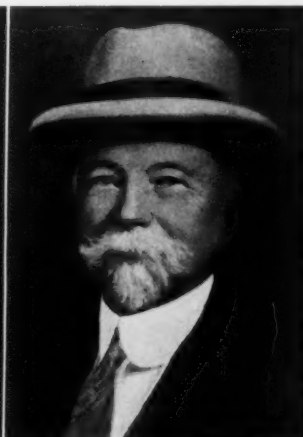
Carl R. Gray.



Paul G. Redington.



Louis J. Taber.



Charles Lathrop Pack.

MOOSE TRAILS OF ISLE ROYALE

BY BEN EAST



We had the advantage of the wind, so stood absolutely still, and he looked calmly and unseeingly at us through the alders.

OUT in the center of a narrow arm of the lake four moose paddled and splashed about with every evidence of delight. Two cows with their little reddish calves of the spring trailing at their flanks. The sultry heat of midafternoon lay over the wilderness and the cows showed every manifestation of pleasure at the relief they were finding in their cool retreat. From time to time we could hear the sharp bark-like bleat of the two calves as if they were tired of the fun and asking to go ashore, and each time the mothers answered them reassuringly. We lay hidden in the tall grass at the edge of the water, Lahti and St. Germain and I, waiting the return to shore of one or both of those family parties and hoping they would land on our side of the arm. Ten minutes before from a timbered ridge above the lake we had seen the one cow and her calf leave the shore, swimming out to join the two already in the water. "She won't cross," Lahti prophesied. "It's too far for the little fellow. He could make it but she won't ask him to." So we went scrambling down the side of the ridge, slipping on the moss and lichen-covered rocks, vaulting over windfallen trees, following the well-worn moose trails that led in a maze toward the shore, making as little noise as possible, hoping desperately to be safe in hiding at the edge of the timber when the cow moose and her youngster turned shoreward. And sure enough, they turned finally, facing us, started back to land. The cow led the way with the calf swimming steadily at her flank, his ungainly little nose ap-



The camera clicked!—Our subject was surprised at close range.

parently resting there as she paddled along, and she was still telling him in her best moose language that it wasn't far to shore and they'd had a good swim and they'd be able to touch bottom any minute now. And so they came on, as straight as a compass needle for me in my poor hiding place. The shutter of my big camera clattered once and I held my breath at the racket it made and waited for them to turn, but they came steadily on, and I pressed the shutter release again—and then dared not risk it another time for fear of losing the chance for one final perfect shot. And as the cow and calf closed the gap between themselves and shore I found myself trembling with eagerness and uncertainty. I wanted them to come as close as they would—but if I waited a second too long and the mother found bottom beneath her hoofs she would whirl down the shore in a smother of water and my picture was lost. And all the time I knew that my head and shoulders and the black muzzle of my camera were in plain sight above the top of the low fringe of grass. Then less than fifty feet out they swerved slightly to come ashore a dozen yards to my right, and in turning they put a low clump of brush between them and me. I tipped forward to my knees, the camera ready, waited—and then Lahti, hidden on a runway just before them, stood up to halt them. The cow raised her head to stare at him, apparently not quite sure it was a man that confronted her, and the coarse hair came erect across her shoulders. But the calf, unheeding, swam calmly past her toward shore, intent only on getting where

he could rest from his long swim. I was on my feet then, free of brush and grass, and the camera shutter clattered again with cow and calf all but filling the ground glass. She caught the sound, even against the wind, turned and saw me standing there. No mistaking the figure of a man outlined against the sky in that fashion.

Cow and calf whirled together, swimming parallel to shore, found bottom beneath their plunging feet and went racing around a distant point to the sanctuary of the forest. We were to see no more of them that afternoon.

We had come in to Lake Ritchie, a favorite gathering place for the moose herd of Isle Royale, that morning, following the well traveled moose trails for six miles from Chippewa Harbor.

No one knows how many moose there are on this great timbered island in upper Lake Superior. They first appeared there less than two decades ago, doubtless having crossed from the Canadian mainland on the north shore of Lake Superior, only fourteen miles away at its nearest point.

Whether the pioneers of the great island herd crossed on the ice during an unusually severe winter—Lake Superior seldom freezes solidly from shore to shore—or whether they swam the channel in summer, lured by the high blue ridges of the island that held out the promise of new range, no one will ever know for sure. The Isle Royale fisherfolk lean to the theory of a water crossing. But scientists who know the habits of the moose are skeptical.

At any rate the moose came, incidentally driving out a little band of woodland caribou that ranged the inland wilderness of the island, found Isle Royale to their liking, and they have thrived and increased until today the Michigan Conservation Department fears the huge herd faces winter starvation within the next few years unless some practical control measures can be found.

Wherever one goes on the island he sees evidence of the abundance of the moose. Their broad trails lead everywhere in a much traveled maze. You can go almost anywhere you like on Isle Royale by following the moose trails. Almost



We got a perfect shot from our blind on shore as the cow moose and her youngster turned and made steadily toward us.

every inland lake on the island boasts at least one wallow, trampled and muddy, plain evidence of the moose that gather there day after day all summer long.

Lahti and St. Germain, in charge of the Michigan Conservation Department's boat, Patrol No. 4, engaged in guarding the great wilderness island from forest fires and poachers, had assured me that on Lake Ritchie, if anywhere on Isle Royale, I would find it easy to make moose pictures. It was there a year before that Walter Hastings, wild life photographer of the Michigan Conservation Department, had made what are doubtless the most beautiful motion pictures ever taken of these ungainly kinsmen of the deer. Also it was on Lake Ritchie that Hastings had captured Teddy Roosevelt, a 200-pound calf, the only moose ever taken alive in Michigan. He had carried the little fellow down to the shore of Lake Superior in an improvised litter made of birch poles and pack sacks, tamed him and shipped him to the downstate cities for display in wild life exhibits.

Just across the arm of Lake Ritchie from where we waited for the cow and her calf to come ashore we found the old blind Hastings had used the year before. A thin fringe of balsam brush at the end of a little point, with a wide moose trail no more than fifty feet behind it and other trails coming down to the water on either side.

In the blind we waited patiently for two bulls to finish a noisy plunge far out in the lake, hoping they would come toward us when the swim was over. Instead, however, they swung away toward two little green islands well beyond camera range and for a time things were quiet in the blind. There were moose in the water all about the lake but none of them were close enough to hold out the hope of pictures. And at length we grew tired of waiting and tired of the oppressive heat that hung over the forest and St. Germain and I elected to try the water the moose seemed to find so delightful.

Our swim was finished and we were dressing on shore when we saw a yearling cow come out of the timber halfway around the end of the arm from us. She was across the wind and we dropped back into the woods, silent as shadows, to circle her before she took warning we were there.



There stood a yearling bull, shoulder deep in the water, not more than twenty yards away, staring straight at us—the best shot of a perfect day!

We were creeping along, parallel to the shore, when we heard a stick crack just ahead. We flattened behind a fallen log, peering over as warily as three wolves. A shadowy form was slipping between the tree trunks where a second yearling cow was on her way down the trails for her afternoon dip. She had heard or winded us and she stopped motionless, trying to get a better story from the breeze. But we had the wind, and after a minute or two she relaxed and wandered on toward the shore. We followed on the same trail and when we reached the lake the two cows were feeding only a few yards apart. Just within the shelter of the alders that fringed the shore, with the wind still in our faces, we crept along nearer and nearer. The eyes of a moose are bad unless an object moves. It's his nose and ears that tell him of danger. If you have the advantage of the wind and will stand still when he looks at you he is far easier stalked than you would think. Suddenly we saw that something out of the ordinary was happening between the two young cows. They started toward each other, walking with slow and stately steps, and the ears of each went back like the ears of an angry horse. The coarse hair rose across their shoulders—and then they came within sparring distance, rose almost erect on their hind legs and clashed like two boxers in a smother of spray. Their front legs worked like pile drivers and there was no pulling of punches. They struck blow after blow that would have split the skull of a man, broken the back of an attacking wolf, or smashed an over bold lynx down in midspring. But as far as we could see they didn't damage each other much. None of the blows seemed to land true and neither gave any advantage of weight or speed. And talk about footwork, there in the shallow water of the lake! It was over in less than a minute,

more quickly than it began. One seemed to get enough, wheeled and started to retreat. But the victor overtook her, upreared for another sledge-hammer attack and the vanquished turned and came erect again in self defense.

Five seconds later, however, the victor was victor indeed, with the vanquished in full flight along the shore. We had seen something that many oldtime woodsmen have never witnessed. I could find but one man on Isle Royale, John Linklater, Chippewa guide from McCargo's Cove, who had ever seen a cow moose in battle.

I'd give much to know what caused that brief heated tilt there on the shore of Lake Ritchie. It was far too early in the year for any antlered suitor to have been involved, if indeed the cow moose ever disagree on such matters. Perhaps they called each other names, perhaps one made personal remarks about the other. Or perhaps for no reason at all one suddenly resented the presence of the other there on the feeding grounds. We will never know the answer. One minute they were feeding quietly with no sign of ill will, the next they were in full and earnest conflict. At any rate, whatever the cause, they gave us about as interesting and amusing a few seconds as I have ever enjoyed in all my camera hunting experience and I am grateful to them both. Neither left the lake after the affair was finished and for the better part of an hour they continued to feed, taking care not to come close together again, however. And before the hour was finished we had succeeded, by

stalking within shelter of the timber, in approaching within less than twenty feet of both of them.

We went back to the blind finally and waited there while a cow came down to the water for a swim and coaxed her calf out to her. Down the lake two bulls crossed the channel from one island to another, and (*Continuing on page 62*)



He rounded a distant point—all that is clumsy and ungainly in the deer family.



It was distinctly an affair between ladies! The approach was slow and stately but the action was sudden and fast. It was over in less than a minute—more quickly than it began—and we had seen and photographed something few oldtime woodsmen have ever witnessed—moose of the feminine gender in battle royal!

Selective Cutting in Western Yellow Pine

By

JOHN B. WOODS

OF THE timber-producing regions of the United States none presents a greater challenge to the silviculturist than the Western yellow pine belt. This pine tree encroaches upon the desert, in mixture with juniper, climbs the high slopes of the Sierras, Siskiyou, Cascades and Rockies in competition with the firs, and, in between, occurs in almost pure stands. Its supply of moisture comes almost entirely from winter rains and snows; for six months of every year it withstands the blazing sun of the high country. Growth is slow; reproduction is beset by difficulties; seed crops are infrequent and irregular; ready germination is largely offset by tremendous losses of seedlings in summer; the young stands are rich fuel for lightning fires. Nature has enlarged the yellow pine area steadily through the centuries, possibly because the innate hardness of the tree enables it to persist. But to man, thinking in terms of years and demanding results within the span of half of his own lifetime, the growing of Western yellow pine is distinctly a problem.

Yet it is apparent that in our national program of forest renewal yellow pine must have a prominent place. A timber tree so useful and widely distributed must not be allowed to fade out of the economic picture. Many billions of board feet are to be found in National Forests and Indian reservations, the sale and cutting of which are handled so as to assure permanent production of pine forests upon such lands. But far greater volumes of stumpage are on private lands. Here then must enter the industrial forester, to outline plans of forest management designed to assure a future crop of merchantable pine without consuming current profits in the effort.

A majority of foresters here and abroad are agreed that private forestry must rest upon a foundation of economics. A state or a benevolent institution may grow trees at a loss for the good of the public or for other reasons, but the business enterprise scarcely can be expected to engage for any length of time in any business that does not promise profitable returns. Bearing in mind the severe conditions surrounding the growing of yellow pine in the West we might assume that in such stands the industrial forester would meet his Waterloo. And probably he would, for the present at least, were it not for certain factors which make currently profitable those methods of logging required for promoting the future tree crop.

To illustrate the trend, the scheme of forest management worked out for the Weed division of the Long-Bell Lumber Company may be considered. This operating unit, possessing many thousands



Among the Giants of the Western Yellow Pine Belt.



Infestations of the pine beetle in Western yellow pine are a calamity and on this operation insect control is carried on by cutting off and burning the bark of infested trees.

of acres of pine forest in northern California, has its eastern timber outpost resting on the fringe of the Modoc Desert and its manufacturing plants in the shadow of Mt. Shasta. It has an operating history of thirty years and has come through the cycle of logging from horse-drawn wheels to steam-driven cables and back again to wheels.

Comparison of the silvicultural results of the three methods of logging on these holdings is interesting. Horse-logged areas upon which the smaller trees were left, released fifteen to twenty years ago, and unburned since, show a substantial quantity of merchantable stumpage although this timber is not evenly distributed over the ground. In horse-logging days they naturally took more trees from the accessible locations and left more and bigger trees on the rougher slopes and harder logging chances. The result then is relatively poor from a silvicultural standpoint, but the intervening openings have been largely seeded in through the years and now are fairly well stocked with seedlings.

Steam skidding, whether with ground or high-lead machines, has been very destructive of all classes of trees. The ground machine working along the track and pulling logs in at right angles to the track has left a spotted condition of the remaining forest, tearing everything down in the path of the line and leaving narrow lanes of young growth, often leaving clumps of rejected trees back of the tail-block locations. Not more than twenty per cent of the reproduction too small for economical manufacturing has been left to grow on these lands after such an operation.

The high-lead machine, using either spar tree or steel tower and working a circle around itself, bringing all logs from the outer rim of the circle to the center, leaves absolute devas-

tation in its wake, except for the very small areas where these circles fail to meet. A few trees escape, it is true, but this is sheer accident and can have no place in the calculations of the forester who tries to forecast the future of such lands. Both of these methods of steam logging pull over and uproot most of the smaller trees and the loggers have followed the plan of dragging these poles to the track and taking them to mill. In fact, recognizing that they will be knocked down anyway, the logger usually has had such small trees cut and skidded.

The caterpillar tractor drawing a pair of big wheels can work as far back as one-half mile

from the track in cost competition with the steam skidder. Usual practice has been to bunch logs into fair-sized loads ahead of the wheels, but today several new schemes are being worked out whereby the tractor collects its own load without the aid of bunching machines or teams. A fleet of "cats" can be distributed over a logging area from track to back-line, or, if desirable, can be divided into units of varying size from day to day, so as to keep loading machines working to capacity under differing lengths of haul. This flexibility also gives the logger daily control of log production in response to weather conditions and mill demands. The caterpillar and wheels can either roam over the ground at will or move along well-defined trails, the latter method being advisable in young stands where there is a heavy residue of small trees to be protected. In this type of work the operator has machinery for economical logging without the sacrifice of small trees. Such machines do not set fires in the operation during hot, dry weather. Two years' opera-



In the cutover section, after selective logging. Trees as large as twenty-four inches in diameter are sometimes left, but old trees, when worth the taking, are always cut.

tion of this type of equipment has demonstrated its fitness for use in the selective method of logging.

But the change from steam skidding to wheeling, involving the disposal of costly and valuable equipment and the purchase of other types, was not made lightly or on the spur of the moment. Early in 1927 a logging and milling cost and realization study was undertaken. The aim was to ascertain the comparative costs of logging and milling trees of various sizes and the value of the products of such logs. It was felt that logs cut from small trees were not paying their way through the plants, and it had to be decided where to draw the line between profitable and unprofitable logs. The results indicated that logs smaller than eighteen inches and of average length and quality were actually a burden. Strangely enough the logging costs for such small timber were practically the same whether handled by steam or "cats."

If it were sound manufacturing practice to leave small trees in the woods, it seemed equally desirable to preserve such trees and also advance reproduction under them providing this could be done without sacrificing the savings thus to be earned. A test of caterpillar tractor and wheel operation over a period of months already had shown that "cat" logging cost on the whole very little more per unit of logs than steam skidding. Such measurable gains as lower railroad construction cost, less water haul in a semi-arid country, and heavier loading of log cars were supplemented by intangible advantages such as greater general flexibility, reduced accident risk and less fire hazard. And by changing to wheeling the small trees and reproduction could be saved. This, after all, was the deciding factor.

The next step then was to apply this selection to a logging program. It seemed desirable to place a trained forester in the woods to mark trees for cutting. His instructions were to keep the standard line tree in mind but to vary upward or downward, according to his judgment, keeping to the point where profitable operation and good silviculture meet. A dense clump of line trees might well be thinned, taking if necessary one or more trees slightly under the limit, but releasing the survivors to grow more rapidly. Single trees slightly over the limit, where needed for seeding and having thrifty tops, were to be left. Trees even as large as twenty-four inches in diameter, when of low quality, might be left if such action was silviculturally sound. But large, old trees—because of their susceptibility to insects, wind and light-

ning—were never to be left for seed trees if they were worth taking.

Once or twice, under stress of circumstances, the cutting limit has been reduced for short periods. Results have demonstrated the soundness of the original conclusions. The most important task of the present is to develop in greater detail the relationships between lumber market values on the mill output and the different classes of logs so that current conditions

can be reflected immediately in the selection of trees to cut. Such studies will turn a more searching light upon all classes of trees and probably will result in raising the requirements for merchantable logs so that even more timber will be left standing. It is possible that material increases in realization upon stumpage converted will result from a further reduction of the footage cut an acre through enlightened tree selection. Quite naturally, considerable attention

has been given to the problem of fire. Slash disposal in yellow pine has furnished material for a great deal of trial and discussion. The fire-protection policy of the Weed operation can be summed up in the superintendent's order: "There must be no destructive fires."

In general slash is left scattered and unburned, except along rail grades and roads, where protective lines are cleared. The whole personnel is available immediately to fight any fire that gets beyond the control of the numerous motor-equipped patrols. Na-
(Continuing on page 60)



The "cat" in action—coming down the line drawing the big wheels that bring in the logs for loading on the flat cars.



A stand of fine young growth—volunteer reproduction of Western yellow pine on a cutover area about seventeen years after logging operations.



Prize Pictures

The Story of a Contest

OUTDOOR AMERICA, its stately forests, its picturesque wild life, its bold and rugged mountains, its entrancing waterways and waterfalls, its alluring trails and highways, is still the greatest attraction on the stage of American life. Despite a trend toward the artificial, millions upon millions find in the outdoors each year an outlet for a sentiment that is peculiarly American in its impatience to be spent—a sentiment that recognizes and delights in natural beauty. Per-

"Ladies
of the
Woods"

The prize-
winning picture,
by D. E. Ahlers

haps nothing measures the depth of this sentiment more than the lens of a camera. It is not enough that the human senses should be stimulated by that which the eye reflects when unsuspected grandeur of nature is uncovered; there should be a perfect pattern from which can be fashioned a more lasting stimulus. Who has not been moved by the beauty of an indi-

vidual tree, the majesty of a great and solemn forest, without wanting a picture? Who has not witnessed a glorious sunset from a mountain peak, gazed upon the fleeting beauty of the wild things in their native haunts, without an urge to carry away the picture to stimulate the senses another day when the problems of life rob the mind picture of its vividness? Too, there is the commendable human trait of reciting the impressions that are vivid, and words, even in the able hands of a master craftsman, are ever secondary to pictures.

The American Forestry Association, recognizing this sentiment, has long endeavored to tell the pictorial story of the forests and outdoors through its magazine, "American Forests." During the past year, however, the order of things has been reversed and the public was asked to tell their story of the outdoors, pictorially, to The American Forestry Association through the medium of a Prize Photographic Contest. The purpose of this quest was twofold—to measure the extent photography has stimu-



"A Norway Pine"

Photographed by Clara Jacobson, awarded second prize

lated the outdoor public and to pass on to others the beauty the camera has caught and recorded.

The response was illuminating. During the short period of the contest nearly 5,000 photographs were received by the Association. They were sent in from every state and practically every territory and possession of the United States. They dealt with every phase of outdoor life—trees, forests, mountains, wild life, lumbering, exploration, fishing, hunting, camping and hiking. They came from men, women and children of many creeds and races, but all endowed with a love of outdoor beauty and the urge to record it.

Ten prizes have been awarded and several hundred photographs retained to delight the readers of "American Forests" during the coming year. The unusual picture on the cover of this number, while not a prize winner, is typical of the many beautiful pictures submitted.

First prize was awarded to D. E. Ahlers, of Dayton, Ohio, for the photograph "Ladies of the Woods"; second prize, to Miss Clara Jacobson, of Chicago, Illinois, for the photograph "A Norway Pine"; and third prize, to Joseph S. Dixon, of Berkeley, California, for the photograph "The Belligerent Buck."

Stanley Shiner, of Cleveland, Ohio, was awarded fourth prize; A. C. Sheldon, of Charlotte, North Carolina, fifth prize; Mrs. T. P. Richardson, of San Diego, California, sixth prize; Mrs. E. B. Meyer, of Amarillo, Texas, seventh prize; E. R. Augustin, Jr., of Upper Montclair, New Jersey, eighth prize; A. D. Harvey, of La Jolla, California, ninth prize; and R. L. Zabel, of St. Paul, Minnesota, tenth prize.



"The Belligerent Buck"

Photographed by Joseph S. Dixon, awarded third prize

Forest Exploration in British North Borneo

By D. M. MATTHEWS

BORNEO, with an area of 286,000 square miles, is the second largest island in the world. New Guinea, with an area greater by a thousand miles, stands first. The Island is roughly pear shaped and lies on the equator south of the Philippines. The larger portion, about 206,000 square miles in the south and east, is owned by the Dutch, and the northwestern section comprising 80,000 square miles is under British control.

Borneo lies somewhat off the main trade routes of the Far East, is very largely covered with dense forests, and since it is sparsely populated, little is known of the interior except along the main rivers. Large oil fields exist in Dutch Borneo and in Sarawak but the chief resources of the State of North Borneo are its dense forests and the large areas of very fertile and easily accessible land suitable for the cultivation of rubber, tobacco, coconuts, and other tropical products. Various species of timber from Borneo, notably Billian, the Borneo ironwood, have been regularly handled through the port of Hongkong for the last seventy-five years; and it is probable that the Chinese secured supplies of timber from the Island for many years before that. But the population is so sparse—only between 230,000 and 250,000 in an area of nearly twenty million acres—that development has been very slow. An almost entire absence of roads renders the interior of the country inaccessible except along the larger streams, and logging has been confined to the most accessible spots within a mile or so of tidewater.

When in 1914 I was asked by the late Honorable A. C. Pearson, C. M. G., then Governor, to visit the State and examine and report on the forests and their possibilities, I

realized that I had no small piece of work in prospect. Still I thought that a year or eighteen months would enable me to accomplish most of the work that was necessary. I ended by spending there the best part of eleven years. And, while

during that period I probably saw more of the forests of the country than anyone else, I

must confess that I carefully examined only a very small percentage of the total area, and that any estimate I might make as to the amount of timber in the country as a whole would be little more than a pure guess. Timber

stands in tropical rain forests vary within small areas from a few hundred board feet an acre to 30,000 board feet or more, and the transition from a heavy merchantable stand to an area carrying little or no timber of value is often abrupt and without any apparent reason.

Then, too, exterior examination of the forest along the banks of rivers or from elevations or tops of trees gives only a bare indication of what the interior of the forest may be like. There is no possibility of determining by such examination the approximate areas of blanks or even where the more dense stands occur. The only way to determine what the stand is like is to travel through the forest on foot and, with *parang*—a large knife—in hand, hew your way through the dense undergrowth to the foot of each tree that lies within a reasonable distance of your line of march, determine its species and record its size in your notebook. Even

examination from an airplane, which has proved a more or less successful form of rough reconnaissance in temperate zones, would only enable one to say whether or not the country was forested and would not permit any useful gen-



A pure stand of Billian, the Ironwood of Borneo (*Eusideroxylon Zwageri*). This timber weighs up to eighty-five pounds to the cubic foot.

eralization as to the percentage of various species or density of the stand. Such an examination would certainly be of value but only as indicating where the main drainages lay and what would be the most feasible points of attack for the real survey.

I arrived in Borneo with only the vaguest notion of what the country or its forests were like and no knowledge of Malay. Familiarity with this language is necessary if one wishes to employ the labor of the country. My job was to examine and make a report on an area of forest variously estimated at between eleven and eighteen million acres, entirely unpenetrated by roads and composed of species which, although similar to some of those I was acquainted with from my experience in the Philippines, were here all masquerading under a brand new set of Malay names.

I was received cordially by the Secretary to the Government, who informed me that a Japanese forester, trained in Germany, had been in the country for some months and was at that time in the jungle with a field party. This gentleman had turned in some voluminous reports of which the Government had been able to make very little. These the Secretary kindly handed over to me—some twenty pounds of them—and asked that I take charge of them and of any future ones that might be forthcoming. He then gave me a pretty clear idea of the extent of the forested area of the country and of how little definite information there was available with regard to it, promised me that all the funds and as-



This is an interior view of a Dipterocarp forest in British North Borneo. Borneo lies somewhat off the main trade routes, and is largely covered with dense forests, but little is known of the interior except along the main rivers.

sistance I should require would be available during the coming year and dismissed me to tackle the problem as I saw fit.

A cursory examination of the reports prepared by the Japanese forester showed that, although he had apparently studied forestry principles pretty thoroughly, he had no idea what to do with wild forests when presented to him by the million acres. He had collected some useful data as to tree volumes and had then started in to prepare working plans, modeled on the best German practice, for blocks of 5,000 acres. He apparently had no conception of the problem presented by 15,000,000 acres of forest in a country where trees were merely an encumbrance of the soil, and where millions of cubic feet of timber had been and were being destroyed annually to make way for agriculture. His idea was to make working plans based on some recognized principle of silviculture which would have ruined any lumber company operating under them in less than a year. The fact that the country was not ripe for technical forest measures and that the problem at hand was the wise use of a big wasting resource had escaped him entirely. At that time no estimates of the timber stand had been made in the

Colony. Lumbermen were accustomed to examine in a haphazard manner an area which they expected to log over and estimate the number of months it would last with a hand-logging gang of say one hundred men. Definite stand figures were necessary to estimate the value of the forest from a



A Nipa Palm swamp in British North Borneo.

royalty standpoint and from that of exploitation with modern equipment involving heavy investment and continuous operation over a period of years. This is the first work to be undertaken in any forest and in the tropics it involves a prodigious amount of hard physical work. Often the results obtained are negative. I decided on the strip system of survey as being the only one which would give results in any way reliable and, after spending some months in making hasty examinations of various large forested areas, came to a decision as to what portion of these merited careful examination. In making this decision the use of airplanes would have been of great value. Bornean forests are dense and when it comes to traveling through them a compass is even more necessary than at sea. There is no possibility of getting bearings from the sun and on the flat lands which border the rivers and coasts there is no definite topography to guide one. Where the stand of timber is good the going is easier than elsewhere, for the shade of the tree crowns reduces the vegetation on the ground; but as the stand per acre decreases the undergrowth becomes so impenetrable that it is impossible to proceed without cutting a veritable tunnel.

As our work went on it soon became evident that narrow estimate strips were impracticable, since the distance which it was possible to cover in a day would not give enough acreage on which to base a reliable estimate. On the other hand the slowness of progress permitted the estimator suf-

ficient time to cover a fairly wide strip, so it was found that a strip one hundred feet in width could be readily handled by one man if he were given three coolies to cut his path and two to do his chaining. Note sheets were written up for each half mile which, with a one hundred foot strip, represented six acres on which all the trees had been measured. Work was always started from a definite point on the coast or on the bank of a river. The main camp was made at this point and the first work was to run a long, well-cleared base line on a definite compass bearing toward what was supposed to be the densest part of the forest. This line

was generally made four miles long and another of the same length set off from it at right angles. From these main lines other lines were run at right angles at intervals of one or one-half mile, depending on the percentage of country it was desired to examine. In general it was a full day's work to run a two-mile line, estimating the timber and roughly mapping the country, and return to camp either over the cut line or on a direct compass bearing. When a direct compass bearing was the shortest distance back to camp, the precaution of laying out long, clearly-defined base lines was appreciated, as it is a very easy matter to miss camp, which is a mere spot in the jungle, whereas the crossed base lines provided marks four miles broad, easily picked up even by inexperienced men.

I did not realize the importance of laying out these lines
(Continuing on page 40)



Logging in Borneo has been confined to the most accessible spots within a mile or so of tidewater. This shows a logging train on the Bettotan River in British North Borneo.



Rafts of Billian, the Borneo Ironwood, on their way to the sea for shipment to Hongkong, through which port this timber has been handled for the last seventy-five years.

Holly Trees for Everyone

By ANNE PIERCE

Better a tree for posterity than
a wasteful branch for Christmas



A great holly tree always beautifies its surroundings.

FEW people own holly trees! They are as rare as they are lovely. Yet the ruthless attacks made on them for decorations at Christmas time bid fair to destroy the few that do exist. The seeds germinate reluctantly and cuttings have responded so poorly that nurserymen have

not been able to fill order for holly trees—a case where demand runs far ahead of supply.

The problem is further complicated by the fact that the holly is dioecious; that is, flowers having stamens and pistils are borne on different trees. Fertilization, therefore, is difficult. You cannot tell a berried type until the plants are several years old, which again delays the selection of seedlings. This makes the propagation of the holly by cuttings by far the best plan. Dr. P. W. Zimmerman of the Boyce Thompson Institute for Plant Research at Yonkers, New York, has for several years been experimenting along this line. Most of the experimental work was done with the American holly, *Ilex opaca*, an evergreen variety, and a prolific bearer of the desired red berries. Amazing progress has been made. A single cutting, made in January, produced shoots and flowers the following November and red berries for Christmas. This is speed for the holly, which is a slow-growing tree.



Holly trees are really Christmas trees decorated by Mother Nature, and she uses shining green glossy leaves and bright red berries. They are not difficult to raise when propagated by cuttings. This is a flourishing group of young holly (*Ilex opaca*), from cuttings, after only two seasons in the field.

And how is this done, when only occasional rootings have been obtained in the past from holly cuttings? Without going through with the many variations that were tried out to establish the best procedure, these are the main points that seem to spell success.

Cuttings were best made between August and December, using either the current year's growth only, or new wood, plus some two-year-old wood. Three or four leaves were left on each cutting. Evergreen hollies did not root when all the leaves were removed, but deciduous hollies did.

Equal amounts of peat moss and sand gave the best results for rooting. The holly is not, however, fussy about its soil. Leaf mold or a mixture of peat moss and soil are acceptable. About six inches' depth was employed, in which the cuttings were slanted to make the leaves lie flat on the soil.

The evergreen hollies were grown in a greenhouse at sixty-five to seventy-five degrees Fahrenheit as a practical average. Some cuttings rooted in three weeks, but it requires three to four months to get a high percentage of rootings. After about fourteen weeks when a large root system was established, the cuttings were potted, moisture and surrounding humidity being kept high for about three weeks, when they may be handled in the bench in the regular way.

This is a brief report of the laboratory tactics that have induced forty to eighty percent of holly cuttings to grow where only one or two grew before, which is a real Aladdin's increase over the old agricultural ideal of making two blades of grass grow where one grew before. A two-year-old potted holly in full berry, used for a Christmas decoration, may be placed out-of-doors any time in early spring or summer. If put out after the middle of July they may be injured by the cold of their first winter in the open.

Contemplate a holly tree by the front door, decorated naturally with its own gloss of green leaves and red berries, with snow and a string of jewelled electric lights, perhaps, to welcome guests at Christmas time. That would be a perennial Christmas tree worth having, instead of one that

strews the floors with dried needles in its New Year's death struggle. Anyone who has lived in a community that keeps its Christmas trees rooted out-of-doors knows how much more beautiful they are than the hearthstone variety. With steam radiators Christmas trees are as hard to maintain as a belief in a chimney-place Santa Claus. No need to give up the idea, just move on to a better expression of it.



This is a Chinese holly plant (*Ilex cornuta*), photographed when it was about one year old.



The American holly (*Ilex opaca*), propagated from small cuttings taken in January and photographed the following November, after the new shoots and flowers had grown. The berries on these little trees were bright red at Christmas.

It has often been said that the daisy might be as popular as the orchid if it were as rare and as difficult to grow. However, the beauty of the holly and its slow growth will probably uphold its popularity even should the slogan "a holly tree for everyone's front yard" come true. In the mean time there is a triple purpose of conserving the few hollies we have, protecting them from short-sighted vandalism of the Christmas decorators, and increasing their number by successful "vegetative propagation," as the scientist calls the method by cuttings.

The establishment of the fundamental laws of plant growth is the purpose of the Boyce Thompson Institute for Plant Research. This is achieved by asking the plants questions, in the language of varying conditions of soil, light, temperature and humidity, and noting their answers as expressed in growth, speed, quantity and quality of development. Plants are as notional as folks, even the members of one family making different demands as to the conditions under which they will do their best. One cannot jump at conclusions as to what will please an evergreen holly because a deciduous holly has been suited in some particular. To determine the exact recipe for coaxing holly cuttings to root uniformly in a minimum time is a matter of enormous commercial importance to nurserymen in dollars and cents, as it is a matter of great satisfaction to tree lovers and the thousands engaged in beautifying public parks and private grounds.

In the World of Trees —



*Etching of a Maryland
Pine by Minnie L.
Briggs.*

*"Trees Are Earth's Endless Effort to Speak to the
Listening Heaven."—Tagore.*

“Ring Out the Old, Ring In the New”

“Ring out, wild bells, to the wild sky,
The flying cloud, the frosty light,
The year is dying in the night,
Ring out, wild bells, and let him die.

“Ring out the old, ring in the new,
Ring happy bells, across the snow;
The year is going, let him go;
Ring out the false, ring in the true.”



“Have you known the Great White Silence,
Not a snow-gemmed twig aquiver?”



"Hail, forest royalty, tall northern pine,
Before whose majesty proud men resign
Their blatant claims to earthly sovereignty,
We, kneeling in humility,
Proclaim thee lord of all this spacious clod,
Tall, stately viceroy of a mighty God."
—Addison Geery.

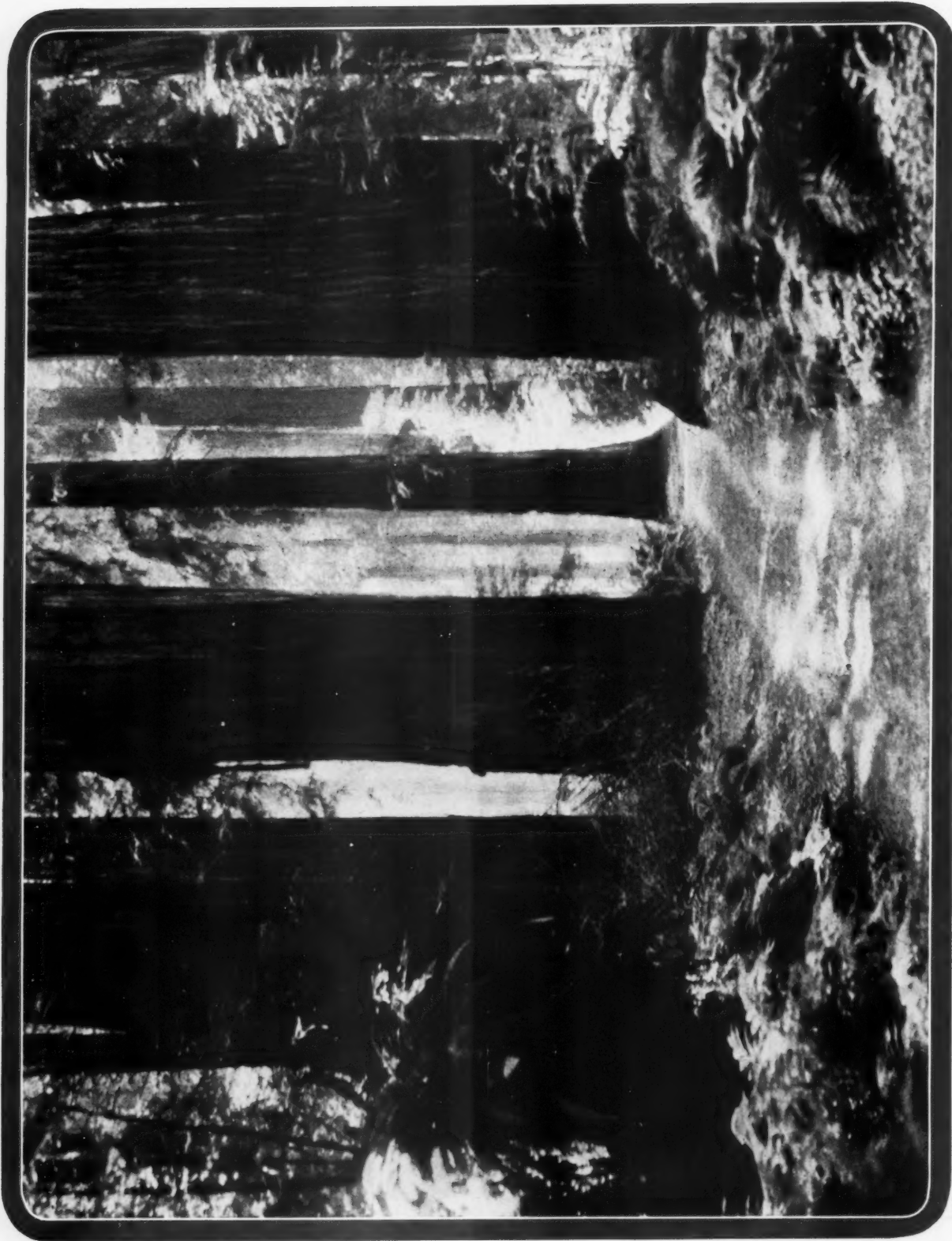


Publishers Photo

Ye Christmasse Tree

"The wide world knows a tree full strong,
And fairer yet than each and all:
More worthy of the minstrel's song
In cottage low or princely hall.

"The Christmas tree whose thought of love
To men upon those shores of time,
Still bears glad tidings from above,
And news to all of truth sublime."



Photograph by Dr. Frank R. Oastler

No description can give any adequate idea of the majesty of the sequoia, much less of its beauty. Poised in the fullness of strength and beauty, stern and solemn in mien, it glows with eager enthusiastic life to the tip of every leaf and branch and far-flung root, calm as a granite dome, the first to feel the touch of the rosy beams of morning, the last to bid the sun good-night.—John Muir

Sweden's Forest Census

By HARRY CHAPIN PLUMMER

THE forests are Sweden's greatest source of wealth. From them alone are derived the raw materials of products which constitute half of the country's income from exports. Yet so great has been the demand upon the northern nation's forest-bearing areas, despite advanced forestry practices and a nation-wide forest sentiment, that the question was raised of the inexhaustibility of the timberlands. As a consequence, Sweden has just completed what is perhaps the most exhaustive survey of forestation ever undertaken by any nation.

The forest-bearing area in Sweden measures in all 57,300,000 acres, the survey revealed, about twelve percent of that of the United States. Forests constitute fifty-seven percent of the entire area of the country, as compared to thirty per cent in the United States. Farm land, gardens and building plots cover thirteen per cent of the total land area; marshes and bogs fourteen per cent; mountains, fourteen per cent; and other hills and similar impediments two per cent. Of the forest area, ninety-six per cent are woods in the true sense of the word, and four per cent are groves and pastures.

The greatest part of Sweden's forests are composed of pine and spruce, it was found. Only in some of the southern provinces are deciduous or leaf trees predominant, especially birch, beech, oak and ash. The average production capacity of the forest and grove land varies from thirty-nine cubic feet an acre a year for northern Sweden, and fifty-seven cubic feet for southern Sweden. For the entire country the figure is forty-six cubic feet, when fully utilized.

However, the production capacity of the forest-bearing area is only two-thirds utilized and in addition the bare area is rather large, considering the size of Sweden, especially in the southern part of the country. This bare area can, however, in no way be compared with that in the United States. In Sweden these bare stretches cover 4,440,000 acres—eight per cent—but an intense work is being carried on to plant forests there. The government has already in years gone by contributed heavily for this purpose, but beginning with this year these appropriations will be increased considerably with

the inauguration of a fifteen-year plan for the improvement and reclaiming of bare or neglected areas at a total outlay of \$17,000,000, of which the government will contribute half. This must be regarded as an imposing achievement for a country like Sweden with its 6,000,000 inhabitants.

In Sweden there are now 10,348,000,000 trees of at least four inches in diameter at about four feet above the ground. On each acre of the forest-bearing area grow at least 172 trees of a minimum of four inches and thirty-six trees at least eight inches in diameter, or so-called "timber trees." The country's entire supply of timber is 50,062,000,000 cubic feet exclusive of bark, which makes an average of 844 cubic feet without bark for each acre of the forest-bearing area. Of this, forty per cent is pine, forty-two per cent spruce and eighteen percent hardwoods.

The annual regrowth in Sweden is 1,683,000,000 cubic feet exclusive of bark. Of this thirty-eight per cent is pine, forty-two per cent is spruce and twenty per cent leafy trees. On an average it amounts to twenty-eight cubic feet a year an acre of the forest-bearing land. The regrowth is highest in provinces in central Sweden where it reaches forty-nine cubic feet an acre. The annual regrowth of the pine and spruce forests is on an average of three and a quarter per cent and of the leafy trees nearly four per cent.

Some years ago a preliminary estimate was made of Sweden's supply of timber. The figures then arrived at were 45,495,000,000 cubic feet with bark, whereas, as has been shown, there are in reality 50,062,000,000 cubic feet

exclusive of bark, or 60,074,000,000 cubic feet with bark. Sweden's timber supply is therefore not less than 14,579,000,000 cubic feet larger than was estimated. The annual regrowth in the entire country was formerly set at 1,183,000,000 cubic feet with bark, whereas it is in reality 1,683,000,000 cubic feet exclusive of bark. In other words, if one supposed that the earth began to show signs of cracking, Sweden

could annually furnish the equator with twelve hoops of wood four inches thick and three feet wide, without having to use up any of its actual lumber "capital."



Surveying Sweden's forests. The man to the left is making a ground survey while the other two men are measuring the trees with steel calipers.





Juan Balme

Ahuahuete, the ancient and picturesque national tree of old Mexico, growing to rare size and beauty in a park in Mexico City.

The famous old whipping tree at Alfred, Maine, which embraced its last victim in 1832. It is the last of its kind in New England.



Frederic L. Campbell

On AND OFF



A. N. Cochrell

Pinch hitting for dad—Boyd, son of Ranger A. N. Cochrell, Clearwater National Forest, Idaho, getting acquainted with a pack string.



Natural discoloration around a cluster of knots in a maple board has produced this animal portrait.

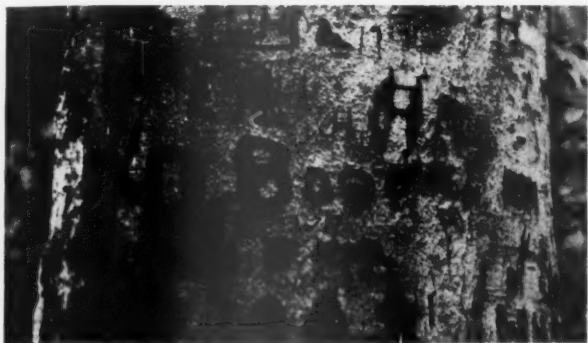
Forest Products Laboratory

Planting a tree in memory of General Frederick von Steuben, famous Colonial soldier, on the campus of the University of Washington, at Seattle.



Edmond S. Meany

THE TRAIL



F. D. Vanover

When Daniel Boone was busy pushing back the frontier of America, he paused long enough to carve his name in this tree near Louisville, Kentucky.

Miss Jean Frey, the first co-ed in the School of Forestry, Oregon State College, at Corvallis.



John C. Burtner

The first State forestry building to serve as a permanent exhibit has been erected at Frankfort, by the Kentucky Forest Service.



Photograph by Pendleton



Ella V. Mahoney

The Edwin Booth Shrine near Bel Air, Maryland. Under this old sycamore tree played the great actor and his ill-fated brother, John Wilkes Booth.

At Lethbridge, Alberta, Canada, a concrete pavement was laid too close to this poplar tree. Then Nature rebelled and showed her strength.



W. G. Winchester



Little Pig Pork

A Christmas Story

By

WILLIAM MERRIAM ROUSE



"**T**HE sparerib's gone!"

Bill Braisted flung himself into the kitchen from the woodshed, accompanied by a blast of cold air. His thin little wisp of grizzled whiskers trembled as his jaw worked with excitement, and his bent frame, which showed its fish-hook outline even through a Mackinaw jacket, was tense.

A big kettle of fat bubbled on the stove, and Lib Braisted was at the kitchen table cutting out doughnuts, her back to the door. She finished extracting the "hole" from a limpsy circle of dough before she turned around. Then her eye took in the half-open door, traveled to her husband's feet, and rested there.

"Tain't," she said decisively. "If 'twas, it wouldn't be no reason fer you to leave the door open and track in snow all over my clean kitchen floor."

"Tis, too," Bill did not deign to reply to the latter part of his wife's remarks, but he carefully closed the door and stepped onto a rug.

"Tain't, neither," Lib wiped her hands on her apron as she repeated her denial, and Bill fell in behind her as she strode to the back door with all the dignity of her five feet one.

"It's a-hanging on the third rafter from the outside door, right where it's allus—" She stopped with a gasp and pulled her spectacles down from their resting place on her smooth gray hair. The string by which the sparerib had hung dangled loose.

"Didn't I tell ye so!" crowed Bill.

"Them two good-for-nothing hound dogs of yours jumped up and pulled it down, that's what's the matter," snapped Mrs. Braisted, turning on her husband with a fierce impetus that sent him backing into the kitchen.

"Spot and old Hunter never stole so much as a bone!" he protested indignantly. "But you don't need to take my word fer it; look at that string. It's been cut. Hound dogs don't carry jack-knives, Lib!"

For a moment Bill thought he had scored. He ought to have known better. His wife's sharp eyes roamed over the shed.

"If you'd put a bar on the woodshed door, like I said to, we'd still be expecting to eat pork for Christmas dinner tomorrer," she triumphed.

"Well——"

"They ain't no 'well' about it, Bill Braisted. Your pork's gone, and you'll have to chaw beef instead."

That he would have no sparerib of pork for his Christmas dinner came forcibly home to Bill for the first time. He sagged into one of the hard kitchen chairs and dejectedly began to unbutton his jacket.

"Dod rat it!" he exclaimed, the suspicion of a tremor in his voice. "Little pig pork is licking good!"

Lib relented a little as she kicked the door shut and began to drop doughnuts into the bubbling fat.

"It's too bad, Bill. I like pork myself; it's mighty easy on the teeth. But you ain't said yet which one of the neighbors is a-going to have roast sparerib fer Christmas dinner."

"Huh?" Bill snorted with surprise.

Lib turned and looked at her husband with the exasperated tolerance of one trying to reason with a child.

"Be you simple minded enough to s'pose that pork cut itself down and walked off up the road?"

"Jehosaphat! That's plain out and out stealing! The feller that took it ought to of left a piece, anyways!"

"Huh!" This time Lib snorted.

"Can't be Jim Ferguson," ruminated Bill. "Sary Jane wouldn't let him steal, and besides, they got plenty."

"Course not," Lib went on turning her doughnuts.

"Ike Peabody might do it for a joke, and then eat it 'cause it looked good."

"He's fool enough, but he ain't got much sand," commented Lib.

"Well, there's Pete Dutraw." There was a belligerent note in Bill's voice. "Them's all the neighbors we got."

"Now you're showing some sense," answered Lib. "Had to be somebody that knowed the dogs, didn't it?"

"Pete's all right," defended Bill. "'Tain't his fault he's a Frenchy!"

Lib fished out the last of her crisp, brown doughnuts, handed one to Bill, and set the dish on the table. Then she put her hands on her broad hips and turned to face him.

"Ain't Pete Dutraw got four young'uns and a wife to feed? Ain't he poorer'n Job's turkey? And ain't he had bad luck hunting and trapping ever since he moved down into the Adirondacks last fall?"

"Tain't his fault." Bill's accents had grown feebler. The picture of a long, brown crackling roast of pork was in his mind. "By gum! Do you s'pose the critter did steal that pork?"

"I don't s'pose, fer I'm certain sure of it," answered Lib, firmly.

There were steps in the woodshed. Spot and old Hunter set up a chorus of growls as a rather timid knock sounded on the door. Bill flung a word to the dogs and crossed the kitchen to find Angelique Dutraw, ten, and the eldest of Pete's family, shivering on the threshold.

"Well," said Bill, "Come in out of the cold."

The girl kicked the snow from her feet and brought out a teacup from under her shawl. Angelique had borrowed from Mrs. Braisted before, and she stumbled slightly over her words as she said:

"Ma wants to know, please, can she borry a cup of flour?"

"Cup of flour!" echoed Lib. "Tain't enough to make anything but gravy. Most likely that's what she wants it fer?"

"Yes, ma'am; pa, he's got fresh meat for us."

In silence Lib filled the girl's cup from the flour barrel and in silence gave it back to Angelique. But the door had no sooner closed than she turned to Bill triumphantly.

"Pa, he's got fresh meat!" she repeated. "Spouse it's woodchuck er fresh pork?"

"The low-lived skunk!" ejaculated her husband, now roused to something like anger. "I didn't butcher that pig to feed all of Canady. The very last piece, and the day afore Christmas, too!" "The only way to be sure about it is to find out," said Lib, as she began to wash her cooking dishes; "but if you go over there this morning they'll be on the watch and hide it. Wait till tonight. You go over and peek in the winder. If they eat that pork tomorrer they got to bring it in by the stove tonight, fer it's ben froze solid ever since butchering."

"By gosh! that's a mighty good idee!" cried Bill. "If they have got my sparerib I'm going to walk right in and get it and tell that pesky Frenchman what I think of him."

Bill went into the parlor and brought out his rifle. Until dinner time he cleaned and oiled it, and after dinner he would have cleaned and oiled it again if Lib had not driven him out of doors. Through necessity of keeping warm he spent the time with the bucksaw and wood pile. Darkness came. Bill went in to a hurried supper, and then, well muffled against the increasing cold, he set out, his rifle in the crook of his arm. Only an occasional star gleamed here and there between masses of scurrying clouds.

The Dutraw house, a rickety little cottage that Pete occupied rent free because it was called worthless, stood back from the main road a few rods, but not more than a stone's throw in a direct line from the Braisted home. Bill waded through the deep snow that covered his potato patch and approached the house from the rear.

Light streamed out through heavily frosted window panes. Bill went forward with cautious steps, in readiness for hasty retreat if the back door should open before he had seen what he had come to see. He reached a window, and, with his muffled chin brushing the sill, peered through a bit of glass that some freak of the frost had left clear.

Bill's range of vision included the cook stove, and the red-clothed table on which the Dutraw family ate. A babel of excited voices reached him. Then the six year old twins, Henri and Henriette, danced into view with the baby Baptiste between them. All three were looking backward.

There it was! Borne in the firm, work hardened hands of Mrs. Pete

Dutraw, christened Marie Clarisse, was the whole long strip

of spareribs that had disappeared from the Braisted

woodshed the night before. Mrs. Dutraw

threw back the cloth and put the pork

on the table. The children

capered around it; Baptiste

sucked his finger, drooling.

Bill backed away from the window. Pete Dutraw would steal his little pig pork, would he? Bill's hands trembled as he tore off his mittens, blew on his rifle to warm a hand-grip, and then tip-toed carefully up the steps to the

back door. He grasped the knob, turned it with great care, and suddenly launched himself into the room.

Mrs. Dutraw screamed, and dropped her roasting pan with a clatter. The twins and Baptiste fell over one another in squealing terror and found shelter at the skirts of Angelique, who was stirring something in a bowl. Pete Dutraw, pock-marked, swarthy, thickset, got slowly up from his chair in a corner by the fire.

"What for you come on my house like dat, Bill?" he asked.

"Ye know durned well what I come in like that fer!" shouted Bill, fingering the trigger of his rifle, and keeping a hawk-like eye on the rack where Pete's shotgun rested.

"Me, I dunno," answered Pete, steady, but watchful.

"Dunno?" echoed Bill. "Didn't you come a-sneaking into my woodshed last night and steal that sparerib of pork?"

"Dat pork?" Dutraw's tone expressed surprise and injury. "I buy him last fall."

"Mean to tell me that ain't my pork?" cried Bill. "Gosh durn it! Dutraw, I knowed every squeal in that pig!"



Dutraw took a step forward and Bill's rifle was leveled instantly. "You come along of me, an' don't stop to arger about it, neither!"

Pete had no chance to answer. The accusing finger of his wife pointed at him from across the room.

"Pete, you tol' me——" She stopped as her husband flashed her a look of warning.

Bill had caught the glance from Dutraw. He dropped the muzzle of his rifle breast high and walked over to the table.

"My pork's a-going home with me," he said as he reached out his left hand and gathered the strip of meat under his arm, "and you——"

A wail from Baptiste interrupted. The youngster's hands were held out toward the sparerib. Henri and Henriette seized him with no gentle grip, but their eyes, also, were on the pink and white delicacy under Braisted's arm. Angeliue turned from her bowl.

"Please——" The little girl stopped and bit her lips.

Bill's eye traveled to Mrs. Dutraw. She was looking at Baptiste and the twins. At that moment Dutraw took a step forward and Bill's rifle was leveled instantly.

"You come along of me and don't ye stop to arger about it neither."

Dutraw opened his mouth as though to speak, and closed it again. The twins joined in a shriek from Baptiste. Mrs. Dutraw sank to her knees, her hands outstretched.

"Don't take my mans!" she pleaded. "We have hungry—and noosing! No bread, no potato, only the flour I borry! Don't take my mans!"

"Stop your bawling!" barked Bill. "And make your young'uns dry up."

He stepped aside and signed to Dutraw with a wave of his gun barrel. The Frenchman walked stolidly out. Mrs. Dutraw, sobbing, crouched on the floor. Bill followed his captive and slammed the door.

"March your boots right straight over to my house," he commanded. Dutraw, hatless and mittenless, plowed silently through snow and darkness. He halted at the Braisted back door as the hounds gave tongue. "Open the door and go right through the shed into the kitchen!" ordered Bill. "Shut up, Spot! Hunter!"

Blinking at the sudden change from darkness to light, Dutraw stood in the middle of the kitchen. Lib considered the occasion of enough importance to neglect her dish washing. Bill tossed the sparerib onto the table.

"Get the meat saw and a butcher knife, Lib," he commanded. "They ain't got nothing to eat over there but gravy!"

"Gravy!" Lib's voice was nearer to being streaked with emotion than it had been in half a score of years. "Gravy!" She took the saw and a knife from the cupboard, and carefully measured off four ribs from the small end of the pork. The saw bit in. Bill wiggled.

"That ain't enough fer them hungry young'uns!" he protested.

"Shut up, you old fool!" growled his wife. "I know what I'm a-doing!"

Dutraw did not move. Snow melted from his leggings and formed little pools on the clean floor. The burr of the meat saw stopped. Lib picked up the big piece of pork, shortened only by four chops, and held it toward Pete.

"Be ye paralyzed?" she demanded, thrusting it into his limp hands. "Want me to hold it all night?"

Bill, who had been fumbling in the cellarway backed into the room dragging a large sack.

"Here's a half a bushel of pertaters," he mumbled, looking anywhere but at Pete. "They's a cabbage and some almighty nice winter beets on top."

Dutraw, comprehending slowly, opened and closed his mouth, but made no sound. Lib glared at him as she filled a ten quart pail with fresh doughnuts and butter, and crammed a loaf of bread on top.

"Pretty note to go hungry right under a body's nose!" she snorted. "Christmas, too!"

Bill, uncomfortable to the point of misery, piled sack and pail into Pete's arms and shoved him toward the door.

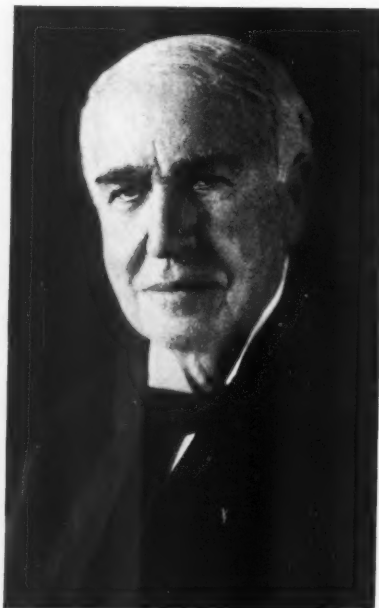
"You go and cut a young fir tree the fust thing in the morning!" he roared. "And tell them young'uns Santy Claus is a-coming hell-bent fer 'lection!"

Pete found his voice. The words came in jerks, and he breathed hard.

"Le bon Dieu bless——"

"You needn't swear about it!" sputtered Bill. He pushed Pete through the doorway and turned back into the room, mopping his forehead with a coat sleeve.

"Gosh, Lib!" he said, fervently. "I ain't ben so mad since I was treed by a bear up on old Hurricane!"



Thomas A. Edison

FEW have contributed more to humanity than Thomas A. Edison; few have gained from life such profound knowledge. In becoming a life member of The American Forestry Association, this beloved American genius characteristically puts his finger on the touchstone of forest conservation and throws light on the solution of this great problem, when he says:

"Would that every American citizen could be brought to realize that our forests are a precious possession and that every man's hand should be raised to protect them and to prevent indiscriminate destruction.

"I am in full sympathy with the object and aim of The American Forestry Association in its efforts to conserve the forests—the priceless heritage that has descended to us."



THE PIED PIPER OF HAMMOND

"For he led us, he said, to a joyous land, Joining the town and just at hand."

By G. H. COLLINGWOOD

FRANK S. BETZ has given away over 70,000,000 tree seed, most of them to the boys and girls of Indiana. He is now planning to give away many millions more, perhaps billions, for this ardent champion of trees and children has promised to leave a trail of trees that will mark the course of his footsteps during a long life of varied activities. Just recently he offered to turn over to children for planting free of charge as many tested black walnuts as there were walnut seedlings planted by all the nurseries in the United States last year.

My first introduction to Mr. Betz was in his home town of Hammond, Indiana. He fairly took me by storm. I was a fellow tree planter and no further introduction was necessary. Dynamic energy characterized every movement he made. He hustled me into his waiting automobile, where I nearly stumbled over a great earthen pot in which were growing a dozen seedlings of cedar of Lebanon. He immediately started to tell me about the tree seed he is distributing, how he happened to get into this activity, and of the results he hopes to accomplish. Everything seemed to come out at once; thoughts followed

one another like water gurgling out of a jug. He had given away 35,000,000 tree seed to boys and girls in Hammond and other cities and towns in Indiana. Twenty-five million seed have been given to farm boys and girls in the state, and more than 10,000,000 have been shipped to Palestine.

Later, in his office, I learned that Mr. Betz was born in Eau Claire, Wisconsin, in 1861. This was a lumbering town, and he grew to manhood among the great lumber camps of that day. For seven years, beginning in 1884, he sold hospital insurance to men working in sawmills, lumber yards and in the woods in Michigan, Wisconsin and Minnesota,

traveling alone through miles of wilderness. Usually, he made the trip with safety and without undue adventure, but one stormy day in December, 1884, he realized that he was lost. Night drew on and he heard wolves howling. He knew he was being followed.

"I realized," said Mr. Betz, as he recalled the horror of the situation, "that being miles from a human being I was powerless to fight off the ravenous pack. Remembering that wild animals fear a blaze, I gathered all of the wood I could lay my hands on and started a fire. I fed the fire throughout the



Frank S. Betz surrounded by a group of school children who are about to receive packages of evergreen tree seeds.

night while the wolf pack milled around, less than a hundred feet away. Morning came, the pack melted away, and with the aid of my compass I picked up my back trail."

He accumulated a small fortune during the World's Fair in Chicago but lost it soon afterwards in a real-estate venture. Nothing daunted, he soon became a specialist in purchasing surgical instruments and supplies. This opened his eyes to new opportunities, and he started the Frank S. Betz Company in a coal shed in Chicago in 1895. After a series of ups and downs he became head of a great firm furnishing supplies to physicians, surgeons and hospitals. Shortly before the World War he was making two and three trips a year to Europe, and occasionally to the Far East. The pressure of work became too great, however, and he decided to give up the management of the business.

During the days of enforced idleness while he was rebuilding his strength and nerve force, Mr. Betz found time to think of the things which vitally interested him. On his many trips abroad and especially while traveling in China, India, Palestine and Egypt, he was impressed with the great social and economic value of forests to mankind. Where there were no trees there was a famine-ridden and impoverished nation. The people lived in mud huts without floors, doors or windows. The children followed the cattle day after day.

Two things became paramount to Mr. Betz. One was trees and the other children. There were too few trees around him. Chicago had flung its limits out over the prairie until it practically included Hammond. Subdivisions were everywhere; black smokestacks were more evident than trees. He made many trips through the country and again was impressed that there were too few trees.

Why not utilize some of his idle time to encourage tree planting? The easiest way to do this, and perhaps the quickest, would be to help school children to plant tree seed. The children and the trees might grow up together and the country would be better for the combination. So he set to his new work with the great energy that characterizes him.

He purchased a large farm at Hobart and began to raise all kinds of trees from seed. While experimenting he purchased pine trees in Connecticut for the Betz Boy Scout Camp at Berrien Springs, Michigan. These he distributed among the Scouts. He discovered, however, that the boys who received the crooked trees or those with limbs on one side were not satisfied. He took the matter up with the Hammond schools and offered to furnish 500,000 pine, spruce and arbor vitae tree seed for the pupils to experiment with, free of charge. This was agreed upon.

The children accepted the tree seed in much the same attitude that for years a great citizenship accepted vegetable seed from their congressmen. Their parents smiled and suggested that Mr. Betz was a bit queer, but it would do no harm to plant his tree seed. So many grew into tiny seedlings. The people who planted them found new beauties in trees, and marveled over the tiny beginnings. Their eyes had been opened. Many of these first seedlings died but Mr. Betz was not daunted. In fact, he was well repaid by the enthusiastic responses from a few parents. The following year he bought more tree seed, put them into little packages and gave them away to more school children.

Up to the present time Mr. Betz has sent out nearly 63,000,000 seed which have been planted by 400,000 children. His offer to distribute tested black walnuts will mean that \$750,000 will be added to the wealth of Indiana.

Working himself every day, devoting his office personnel to the task and using his farm for experimental purposes, trying out his own methods and traveling thousands of miles to learn forest conditions, Mr. Betz has set a pace in tree planting that has caught public support. In his new walnut-planting project he is endeavoring to enlist a large army composed of Boy and Girl Scouts, school children, sportsmen, farmers and business men. He has already received support from railroad officials, industrial companies and civic organizations for the collection of walnuts.

Forest Exploration in British North Borneo

(Continued from page 25)

until I had lost a number of men at the end of a day's work. I usually returned to camp by the shortest route, using my compass as a check on my bearing when compelled to deviate from my general direction by dense patches of undergrowth, impassable swamp or other obstructions. The coolies generally lagged behind me. As long as they were experienced jungle natives this did not matter, for they have a natural sense of direction. But occasionally we would get town natives in the crew and these often would lose their way and in one or two cases I regret to say were never seen again.

One instance of this, which did not turn out tragically, was rather amusing. I had been running a line due east from a point a mile south of camp on the main base line and finished work at two in the afternoon at the completion of two miles of survey. As usual, not wishing to walk three additional miles and cover the same ground, I set off on a pretty direct line towards camp, and my six coolies struck in behind me. Having cut a line for me all day they were not at all averse to seeing the *Tuan* do a bit of work himself. I arrived in camp about four and was writing up the day's notes when my head man informed me that only five of six coolies had turned up. It was then about five thirty and as it is too dark

to travel in the jungle after six, I contented myself with discharging my rifle and with sending men out on the main lines for distances of a half mile or so to shout for the lost chap. The lost one did not turn up and as a terrific thunder storm came on we gave up looking for him until the morning. We located him then less than a mile from camp. He had fallen behind the previous evening to catch crayfish in a small stream. When he decided to come on, we were well out of hearing; but he was quite sure where camp was and came on quite unconcerned until he happened to get in the proximity of a small herd of elephants. He promptly went up a tree, where he remained throughout the night.

Cruising a tropical forest by this strip survey method is a slow job, but it is the only way to obtain reliable data on which to base logging plans. One of the heart-breaking features of the work is that one may spend days running lines through country which carries not enough timber to make the survey worth while. But there is abundant compensation when an area is encountered where the *parang* can be returned to its sheath and the undergrowth opens out to show big trunks running clear a hundred or more feet to the first branch and standing so close together that the note sheet can hardly accommodate the dots that record them.



EDITORIALS

The Timber Conservation Board

PRESIDENT HOOVER'S appointment of a National Timber Conservation Board on December 6, brings into being an agency that can render a highly constructive service to the cause of forest conservation and industry. Its creation is most timely. The forest industries of the country, suffering from years of overproduction, are hard hit by the present depression and in need of public help, intelligently directed. The troubles of the industry have their source in overproduction brought about by excess capacity of plants, heavy holding charges on stumpage, declining lumber markets and other conditions beyond the industry's control. This is the large and intricate problem which the Timber Conservation Board is charged to study and to recommend a course of remedial action, based upon public interests.

The average layman, no doubt, will have difficulty in understanding how there can be overproduction of timber in the light of long-standing statements and warnings of timber shortage. Paradoxical though the case may seem, there is no paradox. National timber shortage is of the future; overproduction is of the present. Our forest resources are limited and will last just so long, depending on how fast we cut what we have and how fast we reforest. A combination of conditions has forced the cutting of present supplies faster than the market demands or good forest stewardship dictates. The result is an unprofitable, disorganized and chaotic industry, a waste of timber needed for future use and a breakdown of stumpage values that threatens the security of forest ownership and the free play of industrial forestry to perpetuate the supply. The situation is therefore charged with a set of immediate and urgent problems that go to the heart of industry, forest conservation and public welfare.

Too few of us, unfortunately, stop to realize the size and importance of our forest industries, and how closely interwoven they are with our whole social and economic structure. When we discuss industrial prosperity and the problems of the major industrial groups we think too often of steel, textiles, oil, coal, automobiles and too seldom of lumber, paper, naval stores and the four thousand or more different articles made from the trees which grow in our forests. We fail to recognize that the forest industries rank next in importance to textiles and to agriculture; that they represent an invested capital of over \$10,000,000; that they yield annually products worth \$4,000,000; that they employ directly in forest, factory, and distribution, 2,000,000 workers. We fail to realize that nearly one-tenth of the total population is directly and indirectly dependent upon forests for support; that their innumerable products are in daily use by the whole population; that their raw material is the lumber grown upon 500,000,000 acres or one-third of our total land area; and that their prosperity or adversity is closely interknit with that of the whole nation.

It is well, therefore, that the President of the United States has recognized the far-reaching threat of the present overproduction situation and has called together a group of thirteen men to study the problem from all angles and in all its phases in an effort to deduce a remedy. The personnel of the Board, representative of leadership in the forest industries, in forest conservation and in public service, gives assurance that the problem will be handled from a broad public standpoint. If the Board is successful in bringing the public and the industry into common understanding of problems and interests involved, we believe that remedies will not be so hard to find or to apply.

An American Game Policy

THE National Game Conference held in New York, December 1 and 2, under the auspices of the American Game Protective Association, accomplished a very remarkable thing. It adopted as the final action of a constructive two-day meeting an American game policy, thereby charting a definite and united course of action for the conservation of wild life and the preservation of a sport in which upwards of ten million people in the United States are today participating.

The fact that only a small percentage of the millions interested in wild life or hunting will appreciate the full significance of this action does not lessen its importance. For more than two decades sportsmen and game conservationists in and out of meeting have scrimmaged on the field

of controversy trying unsuccessfully to come into common agreement as to what ought to be done to save the vanishing wild life from vanishing faster and faster, year by year. Except for the Migratory Bird Treaty compact, the forty-eight states have gone pretty much their individual ways, making forty-eight game policies all unrelated and uncoordinated by a common charter of national principles and objectives. The adoption of the American game policy, therefore, invests the 17th Annual Game Conference just ended with the historic importance of a constitutional convention.

This constitution of wild life restoration promulgates seven principles as basic to constructive and united action. It calls for an extension of public ownership and manage-

ment of game lands as fast as land prices and public funds permit; recognition of the landowner as the custodian of public game on privately-owned lands and the right to compensation for protecting and restocking his lands with game; experiments to determine for each state the most practical way of bringing the landowner, the sportsman and the public into productive partnership in game management and game restoration; making game management a profession like forestry and agriculture by training men in the science of animal biology and game administration; scientific research to replace opinions with facts as a basis for game restoration; recognition that the nonshooting protectionist and the scientist share with the sportsmen and the landowners the responsibility for conservation of wild life as a whole; and finally insistence on public funds from general taxation for all betterments serving wild life as a whole, with sportsmen paying for all betterments serving game alone.

The policy was formulated by a committee set up for the purpose in 1928. In submitting its recommendations, the committee said the proposed policy offers no panacea.

"We urge frank recognition of the fact," it declared, "that there is no panacea; that game conservation faces a crisis in many states; that it is only a question of time before it does so in all states; that the present order is radically unsatisfactory; and that mild modifications of it will not do. We are convinced that only bold action, guided by as much wisdom as we can muster from time to time, can restore America's game resources. Timidity, optimism, or unbending insistence on old grooves of thought and action will surely either destroy the remaining resources, or force the adoption of policies which will limit their use to a few."

Another highly constructive and encouraging trend in wild-life conservation was reflected by the 1930 game conference. This is the increasing extent to which research and fact-finding is being brought to bear upon wild-life problems and its sobering effect upon prolonged and indecisive debates of controversial theories. Adoption of a clear-cut, national game policy with a vigorous impulse back of it to replace abstract debate with fact finding is a step forward that ought to electrify the whole movement.

Whose Domain?

DEFINITE recommendations for dealing with the Public Domain are expected to come from President Hoover's Public Lands Commission next month. On the day before Thanksgiving, the Commission completed a two-weeks' session in Washington, marked throughout by much debate and wide diversity of views on the part of different members of the Commission. A minority and a majority report appeared to be in the offing. Upon adjournment of the Commission, however, James R. Garfield, chairman, announced that members of the Commission had formulated certain definite proposals which they were taking home with them for further thought and consideration in relation to how they would effect respective states' interests. Early in January, Mr. Garfield said, the members of the Commission will again gather in Washington, review the tentative proposals, and formulate a definite set of recommendations to be laid before President Hoover and Congress.

On the day following the adjournment of the Commission, the Associated Press issued a news release outlining the tentative proposals of the Commission. These proposals, it was stated, were reached by compromise, chief feature of which is transfer of the Public Domain from the Federal Government to the individual states with reservation by the Government of subsurface rights to natural resources. Mr. H. A. Brown, secretary of the Commission, however, refused to confirm the Associated Press dispatch; in fact he said it was inaccurate in numerous particulars. The tentative proposals, he declared, are not to be made public until agreed upon definitely at the next meeting of the Commission.

There seems to be no doubt, however, that the tentative program of the Commission was reached through compromise. It is understood that this compromise is based upon the Federal Government retaining those portions of the Public Domain which fall within the land classification of National Forests, Parks and other reservations, and that the remainder of the public lands be turned over to the individual states in which they are located, provided the state so requests. How the Commission proposes to effect the determination of what lands shall be retained by the Federal Government and what lands shall be offered to the states has not been made clear. It is known, however, that several of the Western States do not favor shouldering the burden of administering millions of acres of depleted and unproductive land, so that the tentative course mapped out by the Commission would seem to hold in prospect the spectacle of state ownership and control in some states and retention of Federal ownership and control in others.

In view of the fact that the Commission's proposals are merely tentative, comment on them may be premature, but it will be unfortunate in the extreme if compromise is allowed to play so large a part that the plan of settlement is neither fish nor fowl. This primary issue is the protection and administration of 190,000,000 acres of public lands and their restoration to highest usefulness. A plan of settlement that does not meet that issue squarely and promptly by giving assurance that public interests in controlled grazing, watershed protection, and the prevention of soil erosion will be adequately cared for will defeat the whole purpose for which the Commission was created.

"SOME of the 'old-timers' round about nearly had me convinced by their specious arguments that probably this agitation against seasonal burning of the woods was folderol. Their stories sounded plausible and as I had never burned any woods and had never seen any Florida woods that had been taken care of for a period of years, my knowledge of the subject was purely academic.

"Last Friday I traversed the Ocala National Forests for the first time and saw for myself just what difference there is between woods that receive careful attention, are given complete fire protection, and the general run of woods that we see along the roads through Florida.

"Never again can anybody tell me that it is good for the growth to burn the woods every season; never again can anybody get away with the statement that the young trees are not killed by the flames.

"Reforestation has now ceased to be merely a word to me. Henceforth it means a sea of rich, velvety green covering waste acres by the thousands—just as far as the eye can see. Reforestation is a living issue for Florida. It is more than that—it is one avenue of salvation for our cutover lands that are falling back into state control by the hundreds of thousands of acres because of taxes.

"So when my 'old-timer' friends come to me now with their staunch advocacy of the seasonal burnings of the woods hereabouts, I mean to insist upon their going through the Ocala National Forest and seeing what fire prevention means.—Gilbert D. Leach in *Leesburg (Florida) Commercial*.

A FOREST PAGE FOR BOYS AND GIRLS

H. H. Neil

GIRLS and boys, here we have it—a department appearing monthly in AMERICAN FORESTS, written especially for you. There is no use “beating about the bush” about the purpose of this department. It is to enlist your interest and energy in a great work that needs to be done. And it can’t be done without you.

Anyone with a hand on the present and an eye on the future knows that boys and girls are the most important beings in the world and they should be involved deeply in any problem that looks into the future for its solution.

The great work referred to is the conservation of those beneficial things of outdoor life—tree and plant life, birds and animal life—and their restoration where badly needed. We believe that when girls and boys sense that we must have these provisions of nature in proper balance for a full enjoyment of life, when they come to understand the part tree, plant and wild life play in our lives, and when they definitely realize that the part they take now will return in manifold ways as a heritage when they are grown up, they will release their energy and enthusiasm. They will be like a subterranean stream we read about that found an outlet and brought grass and trees and flowers and more abundant human enjoyment. Here is a duty that calls as loudly as any we know of, and only by answering the call

YOUTH DEVELOPS WHERE YOUTH BUILDS

of resources that are ours. Yet the best plans ever devised are useless unless youth is prepared and imbued with a spirit to carry them out. That is why you are so important, for you are the future guardians of our national assets and ideals. Anything done now will live long only if there is built up in those who follow a consciousness that it must be protected and developed. Progress in forestry depends in a great measure on how well grown-ups succeed in capturing and holding the enthusiasm, loyalty and imaginations of our boys and girls. Already progress has been made. Thousands

of girls and boys in many states are becoming conscious of the tasks confronting our nation. School forests have been established in many states. Boy Scouts and 4-H Forest Rangers have planted trees numbering many

millions on waste places; game birds have been hatched and released; organizations have been formed that have effectively protected bird life and wild flowers. Through endeavor there is being developed an appreciation and enjoyment. A tree planter is a tree protector. A builder of bird houses becomes a lover of birds. Enduring attachments are developed by a little sacrifice and by lending a helping hand. A boy who lives in an apartment house with an alley or street for a playground has small chance of becoming tree-minded. A love for and knowledge of trees, forests and forest life



can we sing “America, the Beautiful” with a full heart.

For many years this magazine has been showing that a treeless nation is a decadent nation, and much has been accomplished by it to retain the natural beauty and wealth

is developed in girls and boys by having them build up the forests and woods they will inherit.

We older folks have enough in our forest cupboard to supply our needs. We have seen the source of supply

dwindle and the costs mount as a consequence, but we are assured of enough for the time that remains to us. With the very best effort we grown-ups can put forth, we shall be forced to pass on to the "growing-ups" forest resources that are rather depleted. There remain two very definite tasks for adults to perform; first, to preserve by wise use as much as we can for posterity to enjoy; and second, to develop a tree-mindedness in those who carry on—our youth. These columns will be devoted to this latter purpose.

Now that we have stated our purpose in this department, let's get acquainted. We have made a big stride toward getting acquainted when we understand what we are after. If you were with me now I would greet you with the handshake of the lumberjack. Even though we live in widely separated places all over this great land of ours, we still can shake hands, if you follow instructions. I am extending my right hand across the distance separating us, the fingers are closed, the thumb extends upward. You grasp the extended thumb with your clasped

right hand, your thumb extending upward. With my left hand I'll clasp your extended thumb, and you do likewise with your left. Now get in the position assumed when using a cross-

cut saw, and in going through the motions of sawing we shake hands in the lumberjack way.

You never saw a man with a nice catch of fish go home through an alley. We are not ducking around either, for we have a proud piece of work to perform and are parading it in the illustration you find on the preceding page. The sign is similar to many that can be seen along the road sides in many states. Placed in a conspicuous place, it stands an admonition to all who pass by to observe at all times laws both legal and natural that make for more abundant forest life. It announces to the world that the people of this school district believe in interesting the students in trees. It announces that a school forest has been established. Old and young are united in a common purpose, that of restoring a piece of ground laid bare by the ax and fire. Here is a relationship that gives promise of growing not only a forest but of making good citizens as well. You see in the picture people who have journeyed along the pathway of life, who have the wisdom experience brings, who probably learned by the trial and error method mostly, now giving guidance and council to those whose pathway stretches ahead of them. It is a fine instance of keeping a hand on the present and an eye on the future. We could not find a picture more suitable.

Once the writer brought a dog home for his boy. The lad was amazed to find only a part of its tail remaining. "How you going to tell when a dog's happy when he hasn't a tail?" was his query. How are we going to know how much a lad enjoys doing his bit for his school when he hasn't a chance? A school forest is just such a chance.

School forests have been a part of the school systems of Australia for twenty-five years. The value of the work has been demonstrated, both from the educational and economic standpoint. Maybe the idea came to our country from this island continent. The school forest is a laboratory for teaching forestry and nature study. It is a method of teach-

ing the ways of tree life, and instilling a reverence for forests through an actual process of forest upbuilding and protection. Where land is cheap, sizable tracts can be acquired by the school board. A tract of forty acres is considered

about as small as a school should take over.

Tracts of land for school forests are acquired in many ways. Often donations are

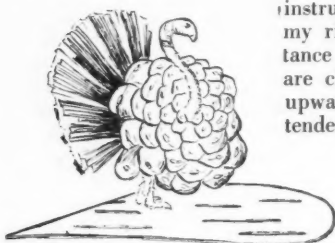
made by lumber and land companies. The women shown in the picture took the initiative in acquiring the piece of land. They gave a social and children furnished entertainment. The proceeds were used to pay the delinquent taxes on a forty-acre tract near the school. That is the way the land was acquired for the school forest pictured here. The sacrifices already made are a strong guaranty that the work will go on from year to year. Where there is work and sacrifice there one finds strong and enduring attachments. Sometime later on we will have more to write about school forests and the joy students find in meeting the responsibility for their care and protection.

Now we are going to divulge a secret. The writer has passed it on to many boys and they have used it to make money for the useful things they want to do. There is no immediate financial return in planting trees. Boys who plant trees must have a vision—an eye on the future. But many want to go to camps where they can learn more about woodcraft, and it takes money to go to camp. The secret tells how boys are making money utilizing cones of pine trees, after the seeds have been extracted. Collecting cones for seed and selling them to nurseries is a splendid way to make money. But that is not the secret. Using the cones to make table place-cards for Thanksgiving and Christmas is the secret. You follow instructions carefully, and if the finished article doesn't bring forth an exclamation of delight on the part of your mother something is wrong.

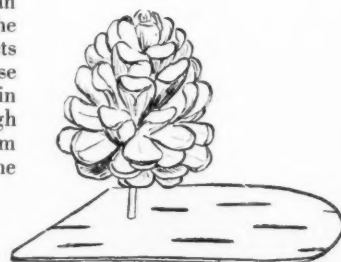
To make a turkey place-card bore a hole down the stem of the cone. A Norway pine cone is best, and a Yankee drill is a good drill. If the cone is not green, soak it for an hour or so to soften the woody fiber. The bracts of the cone will collapse but will spread out again upon drying. Through the hole push a pipe stem cleaner. Bend it for one of the legs and give it the proper bend for a proud neck and the head. On the head sew red cloth with a black bead on each side for the eyes.

With a half length of another pipe stem cleaner make another leg. The ends of the legs should be twisted and flattened for toes. Sew the toes to a stiff card or a piece of bark taken from a dead or dying birch tree. Now place a white paper candy cup within a brown one. A small amount of glue will hold them together. Double them over in a half circle and fringe them with scissors. This is the fan tail. Place it between the bracts on the back of the turkey—a drop of glue will hold it in place, and you have a unique article. The illustration does not do the creation justice. The Christmas tree place-card is made by boring a hole part way up the stem of the cone. A twig about one inch long is used for the trunk. If the end of the twig is dipped in glue before inserting in the hole, a better job will result. (Continuing on page 60)

A TREE PLANTER IS A TREE PROTECTOR



The turkey gobbler place-card for Thanksgiving or Christmas dinner.



The place-card any boy can make from a pine tree cone.



A section of the notebook exhibit displayed in the National Museum at Washington.

Notebook Forestry

Children of Nation's Capital Prepare Great Exhibit in Competitive Contest for American Forestry Medal

DOWN through the long years in which forest conservation, in the sense of protection and wise utilization, has been struggling for the support of public sentiment, the need for a clearer and more effective approach to the child mind has been paramount. Foresters, for the most part, have been too engrossed in the mechanics of preserving the present forests and the technicalities of growing new ones to excite youthful interest in their schemes and devices. Busy teachers, lacking the tools with which to work, have succeeded in stimulating little more than a passing interest.

It was to open an avenue for thought and action to the end of instilling simple and basic forest truths in the minds of school children that The American Forestry Association medals were conceived. These medals have been available to every state, the District of Columbia and Alaska, providing opportunity for schools and organizations throughout the nation to compete in contests which

offered the greatest appeal. Many essay contests have been held while the actual planting of trees, tree identification and the preparation of forest posters have been favored. The most illuminating activity, however—and perhaps one that has intrigued more general interest among children—was a forestry notebook contest participated in by the children of the fourth, fifth and sixth grades in Washington, D. C.

This contest, conducted by the art and science teachers in the public and private schools, under the direction of Miss Esther Scott, brought forth more than 1,500 notebooks. So great was public interest in the contest that the entire notebook exhibit was displayed for more than a week in the National Museum and was viewed by thousands of people.

In competing for the medals the boys and girls were encouraged to originality in thought as well as in the preparation of the notebooks. The result was that poems, essays, stories and descriptions, for the most part original, were



Children of the class of the J. F. Oyster School, who won for their school the large bronze plaque awarded by The American Forestry Association.

interspersed with mounted leaves and pictures. A few original photographs were used, but to a great extent copies of *AMERICAN FORESTS* and other magazines were drawn upon for illustrations. Many of the notebooks were covered with wallpaper, some with colored pictures, a few with leaves or bark, and one was cut out in the form of an oak leaf.

Awards were divided into three classes. The large plaque, mounted on a black walnut stand and bearing a bronze reproduction of the General Sherman tree, the oldest of all living plants, was awarded the J. F. Oyster School for the best school exhibit of notebooks. Mrs. Ruth Webb's fifth grade class at the Janney School was awarded a small bronze medal, also bearing a reproduction of the General Sherman tree with a background of sequoias, delicately executed in bas-relief, for the best notebook prepared as the joint effort of a schoolroom. Similar medals were given Miss Jeanne Snarr of the Brent School, and Walter Lawson of the John Burroughs School, for the best individual notebooks prepared by a girl and a boy. Each medal was presented during special exercises at the four schools by G. H. Collingwood, forester of The American Forestry Association.

In addition to the medal awards, the following school children were given honorable mention for notebooks: Elizabeth Lee Lanham, Curtis-Hyde School; Fay Mowery, Oyster School; Hope Pantell, Force School; Shirley Egan, Bancroft School; Marie Snowden, Deanwood School; Cordelia Burnell, Bruce School; Margaret Wood, Truesdale School; Dorothy Fegan, Taylor School; John Henry Walker, Mott School; and Tierce Beij and Charles Wells of the John Eaton School.

For classroom notebooks the Edmonds, Gales, Munroe, Addison, Langdon and John Eaton Schools received honorable mention. For school notebooks honorable mention was given the Takoma Park, Peabody, Hilton, Carberry, Ludlow, Taylor, E. V. Brown, Cleveland, Jackson and St. Anne's, St. Martin's and St. Cecilia's parochial schools.

Undoubtedly the greatest single feature of the forestry notebook contest, as conducted in the Washington schools, is that it opens a way to simple research without drabness and allows personality full reign. The child follows his or her own instincts, emphasizing that in nature which has

the greatest appeal, discovering, often unconsciously, the simple truths and facts that may fail to be recognized through the medium of textbook and lecture. In this fashion the child is fascinated by a

quest that passes from a curious to constructive stage in later years.

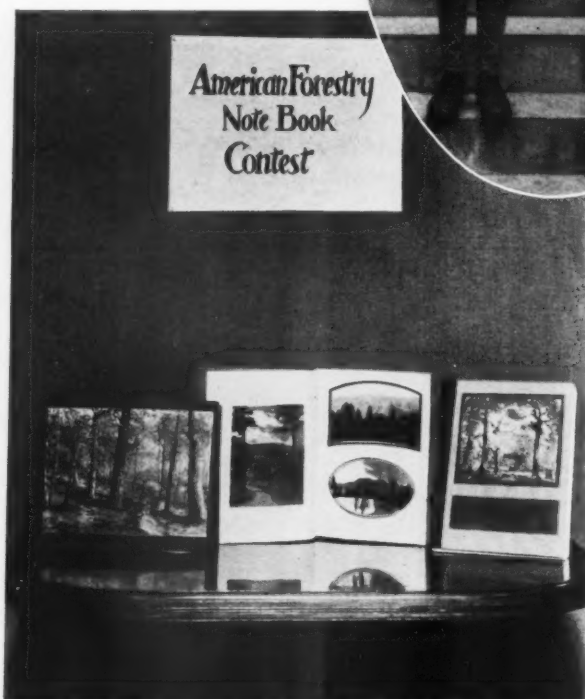
In collecting material the school children of Washington were aided in every way by The American Forestry Association, the United States Forest Service and various other government bureaus and organizations. Hundreds of copies of *AMERICAN FORESTS* were distributed, photograph files were thrown open, an unlimited amount of literature was available, and every question was answered clearly and simply. To offer ideas, lantern slides were shown in every school, presenting pictorially the story of forest conservation in its broadest phases.

The American Forestry Association medals will be awarded to individual students yearly, while the plaque will pass from school to school during consecutive years until the contest is won by the same school three different times, when it may be retained as a permanent trophy.

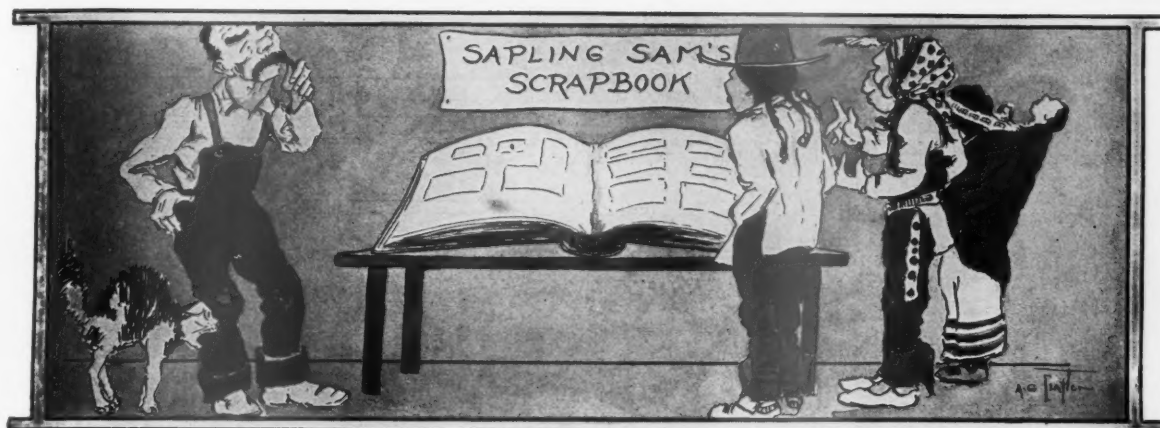
As in the past year, each contest during 1931 will be confined to an individual state but every contest is to be state wide. There will be no relation between the contest in one state and the contests in adjoining states. Contests may be promoted and conducted by the State Forest Service, State Forestry Association, state college, or any other organization approved by The American Forestry Association. In each case the agency desiring to promote the contest must give assurance of its hearty interest and ability to conduct the contest in a satisfactory manner. The contests must be designed to stimulate children's interest and knowledge in forestry. They may be essay or oratorical contests, notebook or poster contests, planting contests,

tree-care contests, or any other designed to create the greatest local interest.

Public or private schools, high schools, Boy or Girl Scouts, 4-H Clubs and similar juvenile organizations are eligible for the contests but each contest will be confined to one common group of children—to the schools, or to the Boy Scouts, or to the 4-H Clubs of the individual states.



Above: The individual medal winners, Walter Lawson of the John Burroughs School and Jeanne Snarr of the Brent School. Below: Three of the winning notebooks on display at the National Museum.



It's an Old Forest Custom

Mr. B.: "I don't like the looks of that new servant."
Mrs. B.: "But, dear, think of the reputation for cooking she bears."
Mr. B.: "But who on earth wants to eat she-bears?"—*Royal Magazine*.

One More Reason

Reforestation on the grand scale may now be urged for the additional reason that it is necessary to provide sufficient perches for the 1931 crop of "tree-sitters."—*New Orleans Times-Picayune*.

An Unsavory Influence

See where a Michigan town has employed an official skunk hunter. It is said that hard times have made applications for the position numerous. It is hoped the winning candidate will not associate too freely with the dog-catcher.—S. S.

Mendacity Made Visible

The drunk halted in front of an enormous stuffed tarpon in a glass case. He stared at it for a minute or two in silence. Then he said: "The fella who caught—hic—that fish is a—hic—liar!"—*American Mutual Magazine*.

Her Man

The following missive is said to have been received by a forest ranger in California:

"KIND AND RESPECTED CIR:

"I seen in a paper that a man named J— S— was atacted and et up by a bare whose cubs he was trying to git when the she bare comes up and stopt him by eatin him up in the mountain near your town. What i want to know is did it kill him or was he partly et up and is he from this place and all about the bare. i don't know but what he is a distant husband of mine. My first husband was of that name and i supposed he was killed in the war but the name of the man the bare et up being the same i thought it might be him after all i ought to know if he wasn't killed either in the war or by the bare, for i have been married twice since and their ought to be divorce papers got out by him or me if the bare did not et him up.

"If it is him you will know it by him having six toes on the left foot. He also sings base an has a spread eagle tattooed on his front chest and an ankor on his right arm which you will know him if the bare did not et up these parts of him. if alive don't tell him i am married to J— W— for he never liked J—. Maybe you had better let on as if i am ded but find out all you can about him without him knowing anything what it is for. That is if the bare did not et him all up. If it did i don't see you can do anything and you needn't take no trouble. My respects to you family and please ancer back.

"P. S. Was the bare killed? Also was he married again and did he leave any property worth me laying claims to?"



"You tell 'em"

The Red Man's Wisdom

Originally a Navajo had the right to as many wives as he could purchase, says M. R. Tillotson, Superintendent of Grand Canyon National Park, but polygamy is disappearing under the white man's law. Recently the superintendent of the Navajo Reservation found an old Navajo with several wives. Very carefully he explained that this was contrary to law and told the old Indian to pick out the one he wanted to keep and then tell the others that they were no longer his spouses. The old Navajo listened quietly and patiently to this explanation, then spoke for the first time, saying: "Huh! You tell 'em!"

Light

Some plants, we are told, derive benefit from the use of artificial light. The electric-light plant is one of them.—*The Humorist*.

Hospitality Note

"After Governor Baldrige watched the lion perform," says the *Idaho Statesman*, "he was taken to Main Street and fed twenty-five pounds of raw meat in front of the Fox Theater."

A Hint to the Unemployed

There is nothing new about the kid who was to be paid so much a bushel for dandelions from his dad's front yard and who dug a great bunch from a neighboring pasture to fool his parent. Also the yarn is old about the California Indian who was collecting bounties in California on Oregon panther hides. But the modern generation has them both beat. Listen to this from an Ottawa, Kansas, paper, as quoted by *Life*:

"By hatching crows' eggs, worth one cent bounty, to young crows worth ten cents bounty, local youths were making an extra nine cents profit until the county clerk was tipped off."

Turn on the Heat

Flapper: "Don't you speak to him any more?"

Ditto: "No! Whenever I pass him I give him the geological survey."

"Geological survey?"

"Yes, that's what is commonly known as the stony stare."—*Kansas Sour Owl*.

Pussy Concert

"The cat was making an awful noise last night."

"Yes, ever since she ate the canary she thinks she can sing."—*Progressive Grocer*.

Or Perhaps It Was an Austin

A prehistoric skeleton has been found, its legs wrapt around its neck. This would seem to indicate that the rumble seat is older than we had supposed.—*Greenville Piedmont*.

Getting Along in the Woods

C. H. Stoddard, Jr., of the University of Wisconsin, illustrates what he regards as exactly 100 per cent efficiency in the art of getting along in the woods.

"Two trappers," says Mr. Stoddard, "had lived together for ten years. On a winter evening one of them, just back from a trap line, remarked: 'Saw a cow moose track today.'"

"The other said nothing, but two days later turned bluntly on his partner and asked, 'How did you know it was a cow moose?'"

"The first trapper uttered not a word, but a day later began to pack his belongings. The other watched him in silence for a while, then asked the reason for his action. The first trapper shouldered his pack and at the door turned to his partner. 'Goin' out,' he said. 'Too damn much argument 'round here.'"

AROUND THE STATES



Forestry to Help Unemployment

Speeding-up of improvement and protection work on the National Forests is contemplated under President Hoover's emergency expenditures for the relief of unemployment. In his communication to Congress under date of December 4, President Hoover submitted an estimate of \$150,000,000 to be appropriated as "an emergency construction fund to enable the Chief Executive to accelerate work on construction projects already authorized by law so as to increase employment." In the President's schedule of proposed expenditures \$3,540,000 was listed for forestry work. It is understood that it is the President's idea that this sum over and above regular appropriations for current forestry work by the Federal Government can be profitably spent between now and July 1, next, and will thus help to relieve unemployment.

The forestry activities contemplated under the President's emergency program call for an advance of approximately \$1,000,000 to execute immediately improvements that otherwise would not be made until 1932, another million dollars for new improvement work, and a million and a half dollars for construction of roads and trails in the National Forests. Expenditures for improvements include a variety of activities, such as the building and repair of telephone lines, construction of ranger cabins, lookout houses, supply buildings and sanitation camps.

Arkansas Wants Conservation Department

The creation of a Conservation Department has been recommended under the proposed plan of reorganization of the administrative affairs of the state government of Arkansas, it has been announced. The new plan, based on findings and recommendations following an exhaustive survey completed by the National Institute of Public Administration and Bureau of Municipal Research, would eliminate ninety-two offices, boards, commissions and bureaus, and eleven administrative departments, including that of conservation, would be established in their place.

David Fairchild Gets Highest Horticultural Award

Dr. David Fairchild, botanist and agricultural explorer attached to the office of Foreign Plant Introduction of the Department of Agriculture, has been awarded the George Robert White medal, the highest horticultural award in America. The award was bestowed upon the famous plant explorer late in November by the Massachusetts Horticultural Society, the oldest and most distinguished society of its kind in the United States.



Dr. David Fairchild

Thirty-three years ago, Dr. Fairchild organized the work in the Department of Agriculture which, crystallized in the office of Foreign Plant Introduction, has introduced into the United States more than 80,000 separate species and varieties of useful plants. In 1906, after eight years of exploration, he resumed charge of the office and is now attached to it as a special agricultural explorer with offices in Washington and a winter home in Cocoanut

Grove, Florida, where in the large Federal plant introduction garden and in his own private garden he experiments with the many useful exotic tropical plants, shrubs, trees and flowers he collects on his pilgrimages to distant parts of the world.

As a young graduate of the Kansas State Agricultural College, Dr. Fairchild was called upon by Secretary of Agriculture James Wilson to organize the work of foreign plant introduction. His first work in that field was as an explorer attached to the expeditions of Barbour Lathrop. Since then, under his supervision or with his cooperation, more than thirty expeditions have been sent out.

Among the plant introductions made by these groups were the dry-land elm, brought from China, now thriving from Louisiana to the Canadian border, superior varieties of the Chinese and Japanese persimmons, once a curiosity, now frequent on American market stalls; the popular sorts of the avocado (alligator pear), which Popence found after two years' search among the mountains of Guatemala; the pistache nut of the Levant and the soy bean of the Orient, now grown on 3,000,000 acres of land all over the United States.

The office of Foreign Plant Introduction under Dr. Fairchild's direction has accumulated the most extensive collection of original field descriptions of useful crop plants in existence, the largest seed collection of economic plant species and the greatest collection of photographs of useful plants in the world.

Of the plants which he personally collected, one of the most important is probably the *Feterita sorghum* from the Sudan, an important grain and forage crop for Arizona and California, several million dollars' worth of which are now being grown annually. He also brought in the Persian Gulf dates from Baghdad, and the tung oil tree introduction from China, whose nuts furnish the "wood oil" of the paint and varnish industry.

The National Geographic Society, of which Dr. Fairchild is a trustee, credits him with having been largely responsible for the establishment in this country of groves of the Oriental bamboo.

Dr. Fairchild also is a medalist of the French Societe d'Acclimatation, a member of numerous botanical and other learned societies in this country and abroad.



New International Speed Trucks at Cedar Creek, Ore. Ivan Ivancovich owns the unit in the foreground which is carrying 2,900 board feet. The second truck, owned by John Peterson, is hauling a single log containing 3,112 board feet.

In Oregon with Internationals

INTERNATIONAL TRUCKS have proved themselves unusually well adapted, efficient, and economical in the logging industry. Here's the story of one fleet that is working on Mount Hood in Oregon.

Magnus Linden, lumberman at Sandy, Ore., has a camp on Cedar Creek on the west slope of Mount Hood, eight miles from the Mount Hood loop highway. The logs are hauled over a steep, rough logging trail, and then carried 30 miles over the main highway and rolled into the Willamette River.



Loading fir logs on operations at Cedar Creek. This Heavy-Duty outfit is owned by Mr. Peterson.

Mr. Linden let his hauling contract to John Peterson, owner of an International Heavy-Duty and a new Model A-5 Speed Truck. The performance of these units was so satisfactory that when operations were increased and more trucks were needed, Mr. Linden insisted that only Internationals be used on the job. Three International Heavy-Duty models owned by H. E. O'Neil, and a Model A-5 Speed Truck owned by Ivan Ivancovich were added.

The average load hauled by the Speed Trucks with two-wheel trailers ranges from 2,800 to 3,000 board feet. The loads hauled on the Heavy-Duty Trucks, also operated with two-wheel trailers, range up to 3,500 board feet, the load limit permitted under the state highway laws. Each truck averages three trips daily, a total of 228 miles.

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THERE is a new order of things in the relationship between forestry and lumbering. Foresters of outstanding ability are being called into the lumber field; forestry principles are being applied in the management of timber properties. A great industry recognizes that foresters can contribute to its present well-being—are vital to its future security. This in turn puts new vigor and enthusiasm into the forestry profession and challenges the best skill of its members to accomplish practical applications of their science.

The greater a man's recognized ability as a lumber manufacturer the more significant becomes his interest in forestry. John D. Tennant has been making lumber in the South and the Northwest for more than twenty-five years. As vice-president and manager of the Long-Bell Lumber Company, at Longview, Washington, he directs its manufacturing operations and timber management in nine states. He served as president of the West Coast Lumber Trade Extension Bureau and upon its union with the West Coast Lumbermen's Association was elected president of the latter organization. He is a trustee of the National Lumber Manufacturers Association and a member of its Trade Promotion Committee. The evolution of the new attitude toward forestry in the lumber industry is well described in Mr. Tennant's own words:



Meet John Tennant, exponent of industrial forestry.

"In the earlier days of my experience I considered forestry rather too visionary for lumbermen to practice. But about twelve years ago I had occasion to examine certain cutover lands that had been denuded of sawtimber. At that time my investigation convinced me that the practice of forestry was one that lumbermen had been passing by too lightly; that it was a practice that lumbermen as a whole could well afford to study and put to use.

"My experience in recent years leads me to the conclusion that in employing certain

logging methods we have been mistaken in our idea as to what was real conservation. In logging small timber and particularly in cleaning the ground, we thought we were practicing conservation, although in reality we were handling a product that would not pay its own way—and the cost of handling it was being borne by the better quality of timber which also went to make up the general average. I am convinced that the lower cost of logging was more than offset by the damage to young and growing trees—to say nothing of the loss sustained by bringing in the small unprofitable logs."

Under such sponsorship forestry has found its place in the operating scheme of the Long-Bell Lumber Company where ten technically trained foresters are employed at present, directing forestry activities in the Southern and Western States.

Conservation as Public Policy Noted by Chief Forester in Report

THAT more people are looking to public agencies to take the lead in correcting long-prevalent maladjustments in the use of forest resources confronting communities, states and the nation, is the view of R. Y. Stuart, Chief of the Forest Service, in his annual report to the Secretary of Agriculture. "A federal policy of forestry has been developing for almost sixty years," he says. "That the American people are in favor of forest conservation as a public policy admits of no dispute. Extensive further forest destruction is held undesirable and injurious to public welfare, and there is strong popular desire not only to have the present forests protected and maintained but also to have the forests re-

stored where man has removed them without subsequently putting the land to other use."

The forester's report recommends that certain forest areas in the Public Domain should be handled as integral parts of the National Forests. Certain areas of privately owned timberland within and adjacent to National Forests also should come under the same management plan, through a blocking-up process already under way, though at an inadequate rate, by means of land exchange authorizations.

In the Western States, the report says, an accumulating area of idle cutover lands is in prospect, which the owners will not wish to retain and which it would be bad public

policy to leave uncared for and nonproductive. "To some degree state forestry is entering the western field," says the Forester. "It should be encouraged and built up by all available means. However, if the Western States provide for the lands of their own that are suitable for forest administration, together with the lands that will revert to public ownership through tax forfeiture and those that adequate state policies of forestry will make it necessary to acquire, it is improbable that they will wish to assume any heavier responsibilities."

The forest lands on the Public Domain are likely to remain a federal problem. For these, the Forester's report recommends that the governing principles laid down by Congress in 1897 be applied—that where opportunity exists through National Forest administration to "improve and protect the forests," to secure "favorable conditions of waterflow," or to furnish a "continuous supply of timber for the use and necessities of citizens of the United States," public lands should be protected and administered as parts of the present National Forests.

In view of the inadequacy of the present scope of water conservation and timber supply in the East, states will find it necessary to greatly expand their policies, the Forester says, or their public-forest interests will be left largely unprotected unless the scope of the federal enterprise is greatly enlarged.

Hoover Creates Wild-Life Refuge in Salton Sea Area

President Hoover, by an executive order of November 25, 1930, has set aside as a refuge and breeding ground for migratory birds the government lands in the southern part of Salton Sea, in Imperial County, California. The lands involved have been withdrawn for reclamation purposes in connection with the Yuma Reclamation Project in Arizona and California. They are primarily under the jurisdiction of the Department of Interior and are subject to its use for irrigation and other incidental purposes, but as a wild-life refuge they will be administered by the Biological Survey.

This refuge, to be known as the Salton Sea Wild Life Refuge, attracts great numbers of waterfowl during their migrations and will constitute an important link in the network of refuges to be established in the west-coast region.

Trees Honor Mather

In memory of the late Stephen T. Mather, first director of the National Park Service, an oak tree has been planted at the old Mather homestead, at Darien, Connecticut.

Planting of trees in honor of Mr. Mather has been carried on throughout the country, singly and in groves. One memorial forest of 10,000 trees was planted by the State of New York. In each of the National Parks a single memorial tree was planted on July 4, Mr. Mather's birthday, by uniformed park rangers. Plans are also under way for plantings in the Southern States.

Missouri Feeds Game Birds

Preparations for the winter feeding of game birds are being made by the Missouri Game and Fish Department, according to J. H. Ross, commissioner. Sportsmen's organizations, Boy Scouts, school groups and individuals are being enlisted. The purpose of this program is to aid birds in their winter struggle for food made unusually severe by the drought of 1930.



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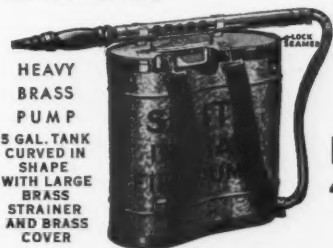


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California Fire Season Favorable

The California fire season of 1930 has been reported the most favorable in recent years due to weather conditions and to increased appropriations which permitted more extensive fire control. There were seventy-one more fires on areas protected by the Forest Service than in 1929 but there was a reduction of five percent in the number reaching a size of ten acres or more. The number of man-caused fires has been reduced but smokers' fires are still the most prevalent and accounted for thirty-five per cent of all fires caused by human carelessness.

Nelson Brown on Tariff Commission

Professor Nelson C. Brown, head of the Department of Wood Utilization at the New York State College of Forestry, Syracuse, New York, will serve one year with the United States Tariff Commission, Washington, D. C., as special expert in the Lumber Division.

An extensive study will be made by Professor Brown of lumber products, costs and competition factors between this country and foreign competitors.

New York Boy Receives Forestry Medal

Lawrence Davidson, a fifteen-year-old boy of Treadwell, Delaware County, New York, has been awarded The American Forestry Association Medal as the outstanding New York State 4-H forestry club worker during the past year. During his three years of club work he has planted three thousand Norway spruce and white pine seedlings, prepared a leaf and twig collection of merit, and produced a net profit of \$25 from the sale of wood which he secured while improving a one-quarter acre woodland demonstration. During his fourth year in the 4-H forestry work he plans to continue improving his woodland and will start planting an old hillside pasture on the home farm. His first year's planting was so successful that the Outcut Valley Game and Fish Protection Association awarded him a cash prize.

Pennsylvania Forests Pay Off

Secretary Charles E. Dorworth, of the Pennsylvania Department of Forests and Waters, has announced that checks totaling \$68,900 have been mailed to townships and counties in which the State Forests are located. The money represents payments for 1930 in lieu of school, road and county taxes on these State-owned lands, and is the largest amount ever paid for this purpose.

Acting under the constitutional provision that public property used for public purposes may be exempted from taxation, laws have been passed in Pennsylvania providing for the payment, in lieu of taxes upon State Forest lands, of five cents an acre a year to the local districts in which these lands are located. Two cents is paid to the township school boards, two cents to the township board of road supervisors, and one cent to the county treasurer for county purposes.

Iowa County Participates in Nut Tree Planting Project

Nut seeds from the birthplace of Thomas A. Edison at Milan, Ohio, and from the home of Admiral R. E. Byrd at Winchester, Virginia, were shipped the last week of November to Boy Scouts of Emmet County, Iowa, to feature in the county-wide historic tree planting program sponsored by Marie Sorum, County Superintendent, as a part in the National Nut Tree Planting Project.

Scouts in this section who had been called together to receive the seeds and instructions in planting and caring for them are participating in an ambitious undertaking, devised both to promote interest in forestry and to provide trees for all the roadsides of the county. Along the main highways and beginning at each rural schoolhouse trees will be planted every year in honor of the soldiers and famous men and women of Emmet County.

The work is in charge of representatives of the twelve townships and of the cooperating institutes and organizations of the county including the County Farm Bureau, Farmers' Cooperative Union, Daughters of the American Revolution, Womens' Clubs, Chambers of Commerce, the American Legion, American Red Cross and the Boy Scouts. The committee will give guidance to the Scouts and their leaders in cooperation with teachers, forestry experts, and the Boys' and Girls' Institute to insure proper planting, marking and protection of the trees. In addition to dedicatory and planting ceremonies, pageants depicting the stories of trees, demonstration programs outlining every phase of tree care and special awards for forestry achievements will be given in Emmet County. Every effort has been made to have the tree-planting program of this county scientifically correct and complete.

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Roads Important to National Parks, Says Albright, in Annual Report

One of the outstanding achievements of the past year in National Park work has been the development of new roads and trails, Horace M. Albright, Director of the National Park Service, stated in his annual report to the Secretary of the Interior. Last season, for the first time, the excellent results of careful landscape planning of highways was apparent to park visitors generally. The elimination of dust from the park roads through oiling also added greatly to the comfort of the visiting public. In his report Mr. Albright recommended strongly the speeding up of construction on approach roads whose primary value is to carry National Park travel.

The establishment of a branch of education and research in the Washington office was referred to by the director as the most important single development in the field of education. Through this new branch the nature-guide and lecture work in the parks and monuments, as well as the museums and other phases of educational endeavor, will be coordinated and expanded.

The acquisition of private holdings within the National Parks was continued during the year under congressional authority and appropriation. The outstanding transaction was the Yosemite purchase, in which 15,570 acres of magnificent sugar-pine land were involved at a total cost of approximately \$3,300,000.

Revenues for the 1930 fiscal year amounted to \$1,015,740. This is the first time in the history of the Parks that the revenues have reached the million mark, Mr. Albright said.

The total area of the National Park and monument system was changed from 15,846 square miles to 16,156 square miles through various changes. The Carlsbad Cave National Monument became the Carlsbad Caverns National Park; a total of 158,866 acres of land in the proposed Great Smoky Mountains National Park area was accepted by the United States Government for administration and protection; the George Washington Birthplace National Monument was established; and the

areas of Zion, Rocky Mountain, and Yosemite National Parks and the Craters of the Moon National Monument were extended.

Especially interesting were developments in the eastern park projects. Upon acceptance of the deeds to the acreage in the Great Smokies, a protective force was installed. The report outlined plans for the transfer of a trained park superintendent to the park area within the next few months. It was stressed, however, that until the total of 427,000 acres specified by Congress as the minimum area for full park status had been deeded to and accepted by the government, development of the park for tourist travel could not be undertaken.

To assist officials of the State of Virginia in making appraisals to determine the exact cost of acquiring the necessary lands, the minimum boundaries of the Shenandoah National Park project were definitely established on the ground. Mr. Albright also stated he was informed that private and state subscription and appropriations had provided the necessary funds to purchase the lands for the proposed Mammoth Cave National Park.

The definite entrance of the National Park Service into the field of preservation of historic places was signalized by the establishment of the George Washington Birthplace National Monument at Wakefield, Virginia.

Purchase of New Forest Land by Government Is Approved

A total of 257,081 acres of forest land, located in twenty-seven different units in the eastern, southern and Lake States, has been approved for Federal purchase by the National Forest Reservation Commission.

The lands approved for purchase will be acquired by the government at a total cost of \$676,520, representing an average cost of \$2.63 an acre. Areas acquired will be added to National Forests or purchase units already established, and administered by the United States Forest Service for the protection of watersheds, demonstration of timber growing possibilities, and development of the forest resources in the interest of the public. Practically all of the lands to be acquired have been cut over in years past, and some of the areas will require artificial reforestation to bring them back to productiveness.

The Commission also approved the establishment of a new purchase unit—the Mesaba Unit in St. Louis County, Minnesota, and rescinded its earlier approval of the St. Croix Unit in the same State.

Members of the National Forest Reservation Commission are Secretary of War Hurley, Secretary of Interior Wilbur, Secretary of Agriculture Hyde, Senators Keyes of New Hampshire, and Harris of Georgia, and Representatives Hawley of Oregon, and Aswell of Louisiana; John E. Burch, secretary.

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Book News



and



Reviews

HORTUS, by L. H. Bailey and Ethel Zoe Bailey. Published by the MacMillan Company, 60 Fifth Avenue, New York City; 652 pages; illustrated. Price \$10.

To meet the principal requirements of the planter for a comprehensive dictionary of gardening and general horticulture, the editors spent five years in assembling from fresh, original sources, this descriptive document of the species of plants and their main botanical varieties commonly cultivated in the United States and Canada.

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This book does not replace the "Standard Cyclopaedia of Horticulture" or the "Manual of Cultivated Plants," but rather tends to supplement and bring up to date those renowned achievements of Dr. Bailey, who is an eminent authority in the horticultural field.—*D. H.*

A digest of the fur laws of all the states and of Canada, Newfoundland and Mexico, including such restrictions as seasons, bag limits, prohibited trapping methods, and licenses, and information on possession and sale of animals and furs, shipment and export, propagation, and bounties, is presented in Farmers' Bulletin 1648-F, "Fur Laws for 1930-31."

THE BEST BIRD STORIES I KNOW, by John Clair Minot. Published by W. A. Wilde Company, Boston, Massachusetts. 315 pages. Price \$2.

Both readable and appealing is this book. It is a compilation of entertaining stories by some of the best and most representative of our present-day writers, and brings to us sympathetic interpretations of bird nature. The bits of verse between the stories are lyric interludes that give the song birds a place in these pages.—*P. V. G.*

"An Annotated List of the Important North American Forest Insects," compiled by F. C. Craighead and William Middleton, Miscellaneous Publication No. 74, United States Department of Agriculture. The list includes a brief description of the region affected by each insect and the character of the injury. References are made to available literature giving more detailed information concerning the several insects. An index completes the publication, which itself serves as an index to much of the contemporary information on forest insects.

THE PLANT QUARANTINE AND CONTROL ADMINISTRATION, by Gustavus A. Weber. Published by The Brookings Institution, Washington, D. C., as Service Monograph of the United States Government No. 59. Price \$1.50.

These monographs are published as an effort to make direct contribution to the efficient administration of the vast and varied enterprises of the national government by bringing together, for the use of legislators and others concerned, the fullest possible information relative to the matter in hand. That the many services of their Government should be thoroughly understood by the public is greatly to be desired, and undoubtedly these studies presented by the Institute of Government Research will be a factor in bringing this about.—*L. M. C.*

To the members of The American Forestry Association

Owing to an error on the part of the printer, a few improperly bound copies of the December issue of **AMERICAN FORESTS AND FOREST LIFE** were sent out to the membership.

If your copy was in any manner imperfect, we shall be glad to send a duplicate copy immediately if you will write:

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"Calculating Waterfowl Abundance on the Basis of Banding Returns," by Frederic C. Lincoln, Circular No. 118, United States Department of Agriculture. This discussion of wild-fowl banding at ten stations located across the continent shows that twelve to fourteen per cent of the birds return during the second year. On the basis of these figures and the annual report of birds killed, the writer states that one can secure a fair approximation of the total waterfowl population for a given year.

To Report on Public Domain

Chairman Garfield of President Hoover's Committee on the Conservation and Administration of the Public Domain, which met at Washington late in November, gave a brief statement to the effect that the Commission had set up certain tentative recommendations which would be carried back by the members for their consideration to be adopted as permanent recommendations. The final report, he said, would probably be formulated at the next meeting of the Commission early in January.

However, an Associated Press dispatch stated that "transfer of the Public Domain to the states with the reservation by the Government of subsurface rights in known mineral areas is likely to be the basis upon which final action will be taken in January by President Hoover's Public Lands Commission." This statement was not verified by Chairman Garfield.

Game Birds Face Food Shortage

Because the 1930 drought has in many regions greatly reduced food supplies for quail, grouse, pheasants, and other upland game birds, the United States Biological Survey urges farmers, sportsmen, hunters, and bird lovers of the country to put out feed for the birds during the coming winter. Conditions this winter may be the most critical for the birds in many years, say bureau officials.

Farmers invariably are interested in feeding the ordinary number of game birds on their properties, but in case of unusual numbers, the Biological Survey suggests that game commissions, sportsmen's clubs, or humane societies assist in feeding the birds.

Central States Forestry Congress

The Central States Forestry Congress attended by more than 125 men and women from twelve states met in Indianapolis December 3, 4 and 5. Discussion centered around the problems of the farm forest, together with the responsibilities of the states and the Federal Government with regard to the increasing burden of tax-delinquent land and the accompanying losses from uncontrolled soil washing. Because the forests of this region are so closely affiliated with farming, frequent references were made to possible assistance from county agricultural agents, and the Congress closed by urging that every agricultural college should include forestry among its courses.

Resolutions were passed endorsing the purchase program of the National Forest Reservation Commission, urging the rapid completion of the national census of forest resources, encouraging more study of ways to control soil erosion and stream flow by the states as well as by the Federal Government, increased attention to forest-fire control and a more vigorous program of forest planting.

Before closing the Congress was permanently organized to call public attention to the part forests play in the life of our communities and the need for protecting, improving and extending the forests of the Ohio and central Mississippi valleys.

The following directors were elected: For 1931: C. Vivian Anderson, Cincinnati, Ohio; C. H. Barnaby, Greencastle, Indiana; A. E. Morse, St. Louis, Missouri; L. B. Springer, Springfield, Illinois; and W. E. Jackson, Frankfort, Kentucky. For 1932: W. F. Lodge, Monticello, Illinois; E. M. Bruner, Louisville, Kentucky; W. B. MacDonald, Ames, Iowa; James O. Hazard, Nashville, Tennessee; and Frederick Dunlap, Columbia, Missouri. For

1933: Kirk Fox, Des Moines, Iowa; Henry E. Bolton, Nashville, Tennessee; Edmund Secrest, Wooster, Ohio, and Ralph F. Wilcox, Indianapolis, Indiana.

American Foresters Propose Reorganizing Conservation Work of Government

The Society of American Foresters, the national organization of professional foresters in whose membership are included many men who have had a large share in shaping the American conservation movement, recently submitted to President Hoover a plan for reorganizing the conservation work of the federal government.

Concentration of Federal conservation activities so far as they can logically be grouped together, was the proposal of the Society. These organic conservation functions should be centered in the Department of Agriculture, the Society believes, and recommends the following activities be transferred to that department, which is already handling the most important of the conservation functions:

"The unreserved timberlands of the Public Domain, from the Interior Department, to be added to the National Forests.

The interior forests of Alaska from the Interior Department, to the National Forest system.

The Public Domain grazing lands from the Department of Interior, these lands to be brought under a system of regulated use comparable to the grazing administration of the National Forests (Provided the Public Domain Commission and Congress decide for Federal retention).

The Bureau of Fisheries from the Department of Commerce. This bureau is primarily concerned with the biological problem of fish propagation and with the regulation of fisheries and the Alaskan seal herds as a means to their conservation.

Alaskan reindeer, from the Bureau of Education, Department of the Interior. A biological and educational problem analogous to the animal husbandry and extension activities of the Department of Agriculture.

The National Parks from the Department of Interior. The plant and animal life of the National Parks presents biological problems requiring the scientific background developed in the Department of Agriculture. Many of the technical and administrative problems of the National Parks are similar to those of the National Forests."

Henry Morgenthau to Succeed Commissioner Macdonald in New York

At the time of going to press an announcement was made that Henry Morgenthau, Jr., of New York, will on December 31, succeed Alexander Macdonald, as conservation commissioner of New York state.

Mr. Macdonald served from 1915 to 1922 as deputy conservation commissioner being appointed to his present office in 1922.

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House Passes Forestry Increases

THE Forest Service would receive increases of more than a million dollars in the Agricultural Appropriation Bill, H. R. 15256, passed by the House of Representatives December 19. This is only about one-third of the increase which marked the current year's appropriations as compared with those of a year ago. The total appropriation of \$213,043,702 for the Department of Agriculture is \$51,516,663 greater than for the current year. It includes \$16,929,620 for the Forest Service and \$2,229,170 for the Biological Survey.

Hearings on the bill before the House Subcommittee on Agricultural Appropriations were completed on December 10. These were based upon the recommendations of the Bureau of the Budget.

The total increase to the Forest Service aggregates \$1,045,390. This is largely accounted for by the \$700,000 to complete the \$900,000 authorization by the La Follette act for the new Forest Products Laboratory at Madison, Wisconsin. No change was made to the appropriation of \$2,000,000 for purchasing forest lands in the Eastern States under authority of the Weeks law and the new Clarke-McNary law.

Fire prevention on National Forests was recommended to receive an increase of \$42,160, bringing the total for this purpose to \$2,134,910. In addition there is the standing appropriation for \$100,000 for fighting forest fires which permits the Forest Service to depend upon deficiency appropriations in times of emergency with which to pay fire-fighting costs. There is also a new item of \$4,840 for the employment in the Washington office of an expert on forest-fire control.

Twenty-five thousand dollars was added to the amount authorized by the Knutson-Vandenberg act for planting denuded land on National Forests. The total appropriation would be \$250,000. In addition \$2,000 has been added to the \$93,000 for the cooperative distribution of forest planting stock, and the cooperative farm forestry extension has been increased from \$70,000 to \$74,000. The item of \$12,500 proposed by the Budget Bureau for a forester to study forest land use in Europe was not included although this had been recommended by the Secretary of Agriculture.

The cooperative forest-fire protection program authorized by the Clarke-McNary law now carries an appropriation of \$1,700,000 and will be increased by \$75,000 for next year. This total amount is to be divided among the several states and used cooperatively in the protection of state and privately owned lands.

The forest research program under the McNary-McSweeney law was recommended by the Bureau of the Budget. This brings the total amount available for forest research to \$1,583,300. Cuts in the amounts recommended for the Forest Products Laboratory account for this entire reduction. The items disallowed were \$15,000 to develop an antishrink treatment for wood, \$10,000 to improve the use of wood in frame buildings, and \$8,700 for investigations on the lasting qualities of paints on wood.

A recommended increase of \$8,000 for forest-fire weather research was disallowed by the committee before the bill was presented to the House. This item now stands as \$35,240.

The budget increase of \$25,000 to develop plans for handling large areas of cutover lands which are reverting to public ownership through tax delinquency was allowed. The total recommended appropriation for this now stands at \$50,000.

Appropriations for soil erosion investigations were increased \$25,000 over the budget recommendations, bringing the total for this purpose to \$280,000. This will provide for a soil-erosion station in the Appalachian Mountain

region of Ohio, Pennsylvania and West Virginia.

Personal presentations and statements by letter and telegram were made to the Subcommittee on Agricultural Appropriations urging that no cuts be made and recommending increases in various items. Particular emphasis was placed upon the need for increasing the appropriation for cooperative forest-fire protection under the Clarke-McNary law and for the rapid extension of the national timber survey with special reference to its completion in the Pacific Northwest. The present appropriation of \$125,000 for the survey was increased by \$75,000 rather than by \$125,000, as requested by representatives of The American Forestry Association at hearings before the Bureau of the Budget.

Included in the appropriation bill is \$45,000 for white pine blister rust control; \$40,000 for sanitary facilities, and \$494,200 for improvements on National Forests which may be made available as soon as the measure becomes a law. This is in line with the purposes of the emergency construction bill introduced in the first days of this session of Congress. In addition to the above figures the appropriation for building forest roads and trails is increased from \$11,000,000 to \$12,500,000.

The largest increases to the Biological Survey are the control of predatory animals, the administration of the migratory bird conservation act, and for the acquisition of land in the Cheyenne Bottoms Migratory Bird Refuge. These total \$940,480. In contrast to this the appropriation for studying the food habits of birds was cut from \$680,000 to \$107,660; for the studies of animal breeding and protection in Alaska was reduced by \$11,350 to \$155,650, and the appropriation for acquiring land in the Bear River Migratory Bird Refuge was reduced to \$19,900, a reduction of \$74,100.

The Department of Interior Appropriation Bill was reported to the House on December 8 by Representative Louis C. Cramton of Michigan and passed on December 12. The total appropriation of \$68,552,006 is \$5,640,383 more than for the current year. It carries an appropriation of \$9,498,250 for the National Park Service, \$593,000 for the forests of the Indian Service and \$485,000 for protecting forests on the Public Domain.

The amount recommended for the National Park Service is \$420,885 less than the appropriation for the current year, but is \$1,360,470, above the budget estimate. The increase above the budget estimate is due principally to an appropriation of \$1,000,000 to continue the purchase of privately owned lands and appropriations for water supplies, power development, sewerage disposal and comfort stations at several parks.

For administration of the Indian forests there was added \$23,000 to make a total of \$248,000; and new items of \$20,000 and \$25,000 are included for forest insect-control work on the Klamath Indian Reservation in Oregon and for suppression of forest fires with the use of tribal funds.

To protect timber on the Public Domain \$35,000 was added to this year's appropriation, bringing the total to \$485,000.

Public hearings before the House Committee on Public Lands on Representative Ruth Bryan Owen's bill (H. R. 12381) to create a Tropical Everglades National Park in southern Florida were completed on December 18. The park would include about 1,300,000 acres in the Cape Sable region of Dade, Monroe and Collier counties. All but 300,000 acres belonging to the state, will have to be acquired through public subscription and donated to the United States.



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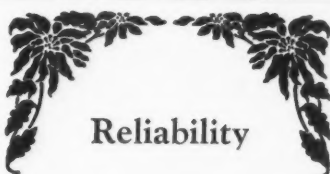
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Conference Adopts Game Policy

Adoption of an American game policy for protection and restoration of the wild-life resources of the country was the outstanding feature of the Seventeenth Annual Game Conference held in New York, December 1 and 2, under the auspices of the American Game Protective Association. The action of the conference in agreeing upon a national policy, it is declared, will go far to speed-up the conservation of wild life by unifying the efforts of sportsmen and conservationists and by providing a common platform for the accomplishment of definite objectives.

The national policy, however, was not passed without opposition. A fight was made against it on the floor of the convention by a small minority who interpreted one section to be directed against the traditional custom of free hunting. Proponents of the policy maintained that the policy in no way contemplates abolishment of the principle of free hunting but merely emphasizes the right of the landowner to charge for the privilege of hunting upon his property. This right the private owner already has, and the principle enunciated is a recognition of the right.

After full and prolonged discussion, the policy was adopted by a large majority. Its substance is contained in seven basic recommendations as follows:

1. Extend public ownership and management of game lands.
2. Recognize the landowner as the custodian of public game, protect him from the irresponsible shooter and compensate him for putting his land in productive condition. Make game management a partnership to which the landowner, the sportsman and the public each contribute.
3. Bring the three parties into productive relationship.
4. Train men for skillful game administration.
5. Find facts on what to do on the land to make game abundant.
6. Recognize the nonshooting protectionist and the scientist as sharing with sportsmen and landowners the responsibility for the conservation of wild life.
7. Provide funds. Insist on public funds from general taxation for all betterments serving wild life as a whole. Let the sportsmen pay for all betterments serving game alone.

Another lively discussion was provoked by an effort to commit the conference to a reduction of the hunting seasons. This resolution was introduced by Dr. T. Gilbert Pearson, President of the National Association of Audubon Societies, but was amended before passage to provide that the Secretary of Agriculture be directed to make a study of the need of reducing the open seasons on game birds and that if this study shows reduction to be necessary the conference requests that action be taken to that end.

Other resolutions adopted by the conference recommended to the Secretary of Agriculture and to the Migratory Bird Advisory Board that serious consideration be given to the advisability of restricting all shotguns to a maximum of three shots at one load, effective February 1, 1932; commended the efforts of firearms manufacturers in their help to perpetuate a game supply and to place hunting on a sportsmanship basis; endorsed the principle of controlling run-off water at its source and the Ransdell-Hudson bill relating to oil pollution of streams.

The newly elected chairman of the conference to serve for the coming year is William C. Adams, Game Commissioner of Massachusetts. Vice-Chairmen elected are David Madsen, of the United States National Park Service; E. Lee Le Compte, of the Maryland State Conservation Department; Alva Clapp, of the Kansas Game and Fish Department, and Hoyes Lloyd, of the Canadian National Park System.

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Ask the Forester?

Each Month Forestry Questions Submitted to the Association Will Be Answered in This Column. If an Immediate Reply is Desired a Self-Addressed, Stamped Envelope Should Accompany Letter.

QUESTION: What is Section 7, Article 7, of the New York Constitution?—*C. B. M., New York City.*

ANSWER: Section 7, Article 7, of the New York State Constitution was adopted in 1894. It was the result of fully ten years investigation and public discussion and provides that all lands within the forest preserve shall be forever kept as wild lands. It further declares that these lands shall not be leased, sold, exchanged or taken by a public or private group, nor shall the timber thereon be sold, removed or destroyed.

The Adirondack Preserve includes the Adirondack Mountains and a rather large area surrounding them. Within the preserve is the park which the state is increasing through annual purchases and which now aggregates about two million acres. Other lands owned by the state in the Catskill Park bring the total acreage owned by New York State in excess of two million acres.

QUESTION: Will you please advise me the method to start some chestnut trees?—*J. A. M., Pennsylvania.*

ANSWER: With a few nuts the process of storage and planting is relatively simple. An ordinary tin can with friction top should be secured. Punch enough holes in the ends and sides so that water and air may have free access. Put the chestnuts in, cover it and bury it outdoors a foot or eighteen inches under the surface. Next spring prepare a place as for a garden and plant the nuts in rows, each nut a few inches apart and the rows far enough apart to make cultivation easy. You can grow them from one to five years in the garden before transplanting to a permanent location. Transplanting should be done in the fall or early spring while the growth is dormant.

QUESTION: I am anxious to get some reliable instructions as to the feeding or fertilization of trees, especially young spruces or fruit trees.—*C. T. T., Massachusetts.*

ANSWER: In June, 1930, the Research Department of the Davey Tree Expert Company at Kent, Ohio, published a bulletin on the fertilization of shade trees in which they discuss their work with evergreens. A copy of this report can be obtained by addressing the Davey Company. Apparently their most satisfactory results were secured by an 8½-3-3 fertilizer mixed with dried manure and then worked into the soil or poured into crowbar holes which were inserted at various distances around the base of the tree.

QUESTION: Will Russian olive trees grow in northern New York?—*W. D. D., New York.*

ANSWER: The Office of Dry Land Investigations in the United States Department of Agriculture believes that Russian olive trees should grow satisfactorily in northern New York where the temperature is not as severe as it is in the Dakotas and in Colorado, but, as one of the men expressed it, the Russian olive does not stand prosperity and may prove rather disappointing under your conditions.

QUESTION: How can one prevent the needles of Christmas trees from falling off?—*E. A. S., Ohio.*

ANSWER: At best one can only postpone the time when the needles will fall for the tree has been cut from its roots and having no natural source of moisture will soon die. Until it is ready to be set in the house and decorated the tree may be left outdoors where the sun cannot strike it, or in a shed, garage, barn, or cold room. When it is brought into the house it may be set with the base in a pan of water or in a tub of moist sand. This will furnish moisture for the needles and will help them to hang on longer than otherwise.

QUESTION: Can taxes be waived on land that is owned and retained as a municipal watershed?—*S. E. D., Arkansas.*

ANSWER: Arkansas does not have a special forest tax law. There is nothing in the existing tax legislation in other states having such laws which would indicate that forest watersheds belonging to a privately owned commercial water company would qualify for special tax consideration merely because of their function in protecting water supplies. In any event, the fact that such forests served a public recreational purpose would not serve to qualify them. The states which grant exemptions from taxation base it upon the use of the land for commercial timber production.

QUESTION: I want to snip off the tips of arborvitae branches to make them more bushy. Please tell me if now would be the best time, or should I wait until spring?—*L. E., Pennsylvania.*

ANSWER: Arborvitae can be trimmed any time in the fall or during the late winter. It can also be done even in the early spring. There is no reason why winter killing should follow the trimming.

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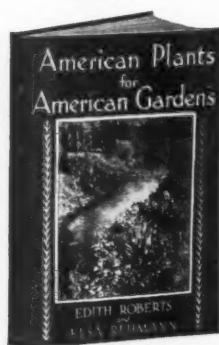
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Boys and Girls Page

(Continued from page 44)

Now bore a hole much smaller than the other end of the twig in a piece of fiveply cardboard of a size and shape desired. Some use irregular shapes. If birch bark from a fallen tree can be obtained, so much the better. Dip the free end of the twig in glue and push into the hole in the place card. Dampen the cone with clear shellac and sprinkle generously with artificial snow. A delightful Christmas place-card is the result. One boy found a bit of beautiful sentiment and printed it nicely on the card. It read: "May cares drop from you like needles from off the rusty pine."

Of course, it is too late to make place-cards for the holiday occasions this year. Keep these suggestions in your Forestry Scrap Book for another year. In the near future we will talk about the why and how of the Forestry Scrap Book. It is another one of the secrets that a boy told me brought more fun and knowledge to him than anything. But more about this later on.

What boy doesn't love to read the stories of the lumber days and of frontier life with its dangers and hardships. Maybe this love springs from the spirit of adventure that still possesses us. It might be the unconquerable love for the difficult. Many are stirred to the point of wishing for the return of those days that they might live them over again. Geographical frontiers have gone, but other frontiers still remain. Youth, looking for adventure, may still find it. It would be great if these columns could reach and help the many boys who are almost tormented by an unsatisfied desire for the woods. Maybe we shall be able to do so.

Selective Cutting

(Continued from page 19)

tional Forest lookouts serve this region. The state patrol organization is active and receives the limit of cooperation. In each of the three years since the no-fires edict was issued, the forest land burned over amounts to less than one acre in every ten thousand.

Going forward on the selective basis until the virgin areas have been cut over, the mills will thereafter recut through the second growth for an additional period of seven or eight years. Thus the operation is projected over a period considerably longer than the usual operating life of a large pine enterprise. When the operation is terminated there will be left a restocked forest of seedling to sapling size which may be expected to have a real value and place in the economic forestry program. At any time during this period the operating policy may change to reduce output and prolong life. Whether this occurs or not the program justifies itself and the operator leaves his lands in process of producing a new tree crop for the future. The growth of yellow pine, even when released, is slow, and sustained yield is extremely difficult to accomplish unless National Forest timber is made more securely available to private operators in conjunction with their own selectively managed holdings.

Several thousand acres of old burns present a problem in restocking. Despite the fact that plantations in this yellow pine region generally have failed, a small nursery has been started at Tennant, the logging headquarters. Its purpose is to experiment with a variety of suitable trees in order to restock these barren areas. In this nursery are growing yellow, sugar and lodgepole pine, white and Shasta fir, and giant sequoia.

The pine beetle infestation in Western yellow pine is an economic calamity little appreciated by most Americans. For the past decade beetles have been attacking the pine stands of southern Oregon and northern California. Many of these stands are not economically ready for operation, and should constitute a pine timber reserve for the future. Several private owners have maintained persistent costly insect control in the more valuable stands, even in the face of continued reinfestation from uncontrolled epidemics in adjoining Federal and Indian lands. In the Weed operation insect control is carried on by cutting and burning the bark of infested

trees wherever practicable. Having a mainline railroad through the center of the holdings it is possible to apply control over a large part of the nonoperative area.

Foresters in future generations may point to the Western pine beetle as one of the greatest agents in bringing about proper forest management in pine. It appears from our own experience that insect control is necessary in nonoperative stands and that selective logging is indicated as a deterrent to the beetle, but that such logging methods also are demanded if we are to obtain best returns from our lumber operation.

Conservation Calendar in Congress

This monthly feature is a service to the members of The American Forestry Association.

Conservation bills of interest introduced in the present session up to December 12 are given below:

FORESTRY

S. Document No. 223—Report of the National Forest Reservation Commission for the fiscal year ended June 30, 1930. Referred to the Committee on Agriculture and Forestry and ordered to be printed with illustrations December 3.

PARKS

S. 5250—Jones—To extend the south and east boundaries of the Mount Rainier National Park, in the State of Washington, and for other purposes. Referred to the Committee on Public Lands and Surveys December 11.

H. R. 14997—Hawley—Providing for the creation of a National Park in Marion County, Oregon, to be known as the Silver Creek Falls National Park, and authorizing the appropriation of money therefor. Referred to the Committee on Public Lands December 11.

H. R. 15008—Summers—A bill to extend the south and east boundaries of the Mount Rainier National Park in the State of Washington, and for other purposes. Referred to the Committee on the Public Lands December 11.

S. 5248—Norbeck—To extend the boundaries of Wind Cave National Park, South Dakota, by adding thereto an area of 320 acres. Referred to the Committee on Public Lands and Surveys December 10.

S. Res. 341—King—To authorize an increase for construction of roads within National Parks from \$5,000,000 to \$7,500,000 a year. Referred to the Committee on Agriculture and Forestry December 2.

WILD LIFE

H. R. 14072—Denison—To provide for the protection of birds and their nests in the Canal Zone. Referred to the Committee on

Interstate and Foreign Commerce December 2.

S. Res. 350—Walcott—To authorize the Senate Wild Life Committee to expend \$10,000 in addition to the amount heretofore authorized. Reported by the Committee on Audit and Control of the Contingent Expenses of the Senate and agreed to December 18.

H. R. 13276—Arentz—A bill to establish the Needles Rocks wild life refuge. Reported December 11 from Committee on Indian Affairs without amendment (Report No. 2095).

CONSERVATION

H. R. 14061—Sumners—Authorizing compacts among states for agricultural and conservation purposes. Referred to Committee on Agriculture December 2.

INDIAN AFFAIRS

S. 4828—Thomas—Authorizing the President to appoint a commission to study, report, and recommend on a Government policy in relation to the American Indians. Referred to Committee on Indian Affairs December 2.

MISCELLANEOUS

S. J. Res. 212—McNary—To coordinate the fiscal business of the United States Department of Agriculture and the Alaska Game Commission in Alaska, and for other purposes. Referred to the Committee on Agriculture and Forestry.

S. Res. 351—Steiwer—To direct the Secretary of the Treasury to investigate the extent to which convict labor is used in the manufacture or production of timber products in any territory subject to the jurisdiction or control of the Union of Soviet Socialist Republics, and to report thereon to the Senate at the earliest practicable date. Ordered to lie over under the rule December 3.

For bills introduced in the last session and carried over into the present short session of Congress, reference should be made to the August issue of this magazine, page 529.

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Modern Loggers

(Continued from page 6)

story writers. Machine shops, blacksmith shops, roundhouses for the locomotives and good-sized stores are to be found in all camps.

For the past ten years the practice of taking wives and rearing children has made great progress among loggers. In many camps more than half of the crews are married men. So the camp school has arrived. They are well-built schools, too, far better than the "deestrect" schoolhouse of yesterday.

The women have changed the whole atmosphere of the camp. The churning of electric washing machines on Monday and the strange garments that flutter from camp clothes-lines a bit later would indeed shock and bewilder an old-time Maine or Michigan logger come to life. So would the hum of the sewing machine, the sound of the school bell and the blare of the radio—and a long garage for the cars of loggers. Not an ox is to be found in camp. But there is a starting and stopping whistle, just like a factory.

In the bunkhouses he would hear no tales of the fabulous Paul Bunyan, logger hero. Rather he would hear talk, indistinguishable from that in a Pullman smoker, regarding the best make of automobile to buy, the price of gasoline and moonshine, the merits of various broadcasting stations and the latest endurance flying stunt.

The best paid jobs, he would learn, do not go to the best chopper, as of yore, or to the cattiest man at a moving jam of logs, but to the mechanics—donkey and locomotive engineers—and to the high-climbers and cooks.

These things, I say, would shock the old-timer. But they would be mild beside the jolt he would receive when he went into the camp commissary to buy a plug of chewing tobacco and an honest red woolen shirt, and saw a logger—a real, live logger—buying a package of cigarettes and a suit of pink rayon underwear.

He would be almost as surprised at such goings-on as would be the present-day novelists and short-story writers who insist on having loggers shave their beards with finely-ground axes.

Incense

I love the wood scent, the good scent
Of the tall dark pines.
I love the high blue, sky blue
Bit of heaven that shines
In lacework through the trees.

I love the pine straw, the fine straw
Carpet 'neath my feet.
The fragrant wild azalea,
So pungently sweet,
Keeps my heart a-singing yet.

I love the swaying, green plumed tops
In the soft spring breeze.
I love the quiet giant strength
Of the towering trees.
But O the wood scent, the good scent
Of the tall dark pines!

—LILA ANDREWS CAMP.

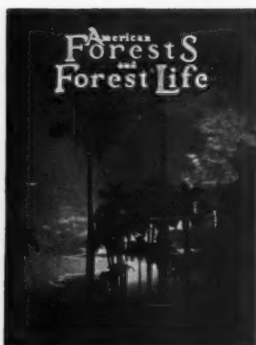
Moose Trails

(Continued from page 16)

from one island to another, other bulls came out of the timber farther down the shore. None came within close range of the camera, however, and none gave us the advantage of the wind for stalking. The sun, hanging low above the timbered ridges to the west, warned us finally that it was time to leave if we wanted to get back to Chippewa Harbor by dark. There would be no traveling on the tangled moose trails once dusk had fallen and we had no wish to spend the night in the Isle Royale bush at that season of year. Mosquitoes are as abundant in the northern wilderness in July as moose, or more so. We were halfway around the lake on the way out when Lahti, traveling ahead, held up his hand and whistled a low warning. St. Germain and I flattened behind a rock, waiting. After a minute Lahti motioned us to come on and we crept ahead. Then his hand halted us—beckoned—stopped us again. The moose was feeding and

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January, 1931

we could move safely only when his head was down under water. We could see him finally, a yearling bull standing in the lake shoulder deep, feeding contentedly and with no suspicion that intruders were so near at hand. His head went down for what seemed a full minute, exploring on the bottom for some choice morsel—and when it came up we were at the edge of the water, half hidden behind the upturned roots of a fallen balsam. The tree lay out into the lake and the moose was standing just beyond the top of it, no more than fifty or sixty feet from us. He was looking in our direction, too, but his eyes failed him and we had the wind. We waited, hardly breathing, not daring to lift a hand or move the heavy camera. Then he went down again, and I jerked the camera open, leveled and focused it—and when he raised his ungainly head, water dripping from his big homely muzzle, from his short, velvet-coated antlers and flopping ears I pressed the shutter release.

The clatter of the camera halted him in the midst of a long contented grunt. His head jerked around toward us and for a full minute he searched the rocky timbered shore with his eyes, seeking to learn what the wind did not tell him.

And while he stared straight at us, no more than twenty yards away, I moved snail-like a fraction of an inch at a time to reset the camera, pull out the tab on the exposed film, level at him again and catch him a second time—suspicion in his pose, uncertainty in his eyes. A moose, by the way, can change facial expression as quickly as a human and is just as easily read, too. Walter Hastings has a strip of footage in his motion film that shows a cow registering emotions as clearly as any Hollywood screen star.

That second clatter was too much for our young bull. He pivoted, splashing away along the margin of the lake. St. Germain turned him when he would have come ashore too quickly and gave me a chance for a final shot as he rounded a distant point, a picture of all that is clumsy and ungainly in the deer family.

A perfect ending for a perfect day, that last chance with the camera. In two hours there in the vicinity of the big wallow at the east end of Lake Ritchie I had made pictures of eleven moose and had seen perhaps a dozen more out of camera range. I'll not soon forget that day in the inland wilderness of Isle Royale. Much has been said of the sport of calling and still-hunting moose in the autumn gunning season, but until you have hunted them with a camera on the wilderness-cloistered lakes where they come confident and unwary, you have not tasted the ultimate in moose thrills.

National Forest Fire Losses Cut

With the 1930 forest fire season definitely closed in all but a few of the 149 National Forests, the Forest Service has announced what it considered most gratifying results in fire suppression. Average loss of gross National Forest area for the year was held to slightly more than one-tenth of one per cent, the best record ever made by the Service.

Despite intensive efforts to prevent forest fires, the Forest Service has had to contend with more fires on the National Forests this year than last. By November 10 of this year, 8,203 fires had been put out. For all of 1929 there were 7,449. Man-caused fires increased from 3,950 to 4,169; lightning fires, from 3,499 to 4,034. The increase in total number of fires was the result of the unusual number occurring in the Eastern States, the number of fires in western National Forests being less than last year. In many sections extreme fire hazards were created by the summer drought.



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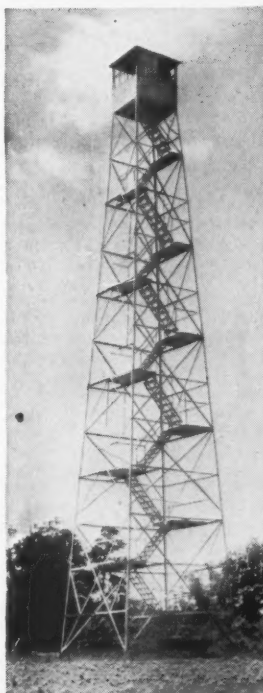
Over 8,000 copies have been sold—30 cents, postpaid

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THE ORIGINAL GALVANIZED STEEL TOWERS for Fire Protection purposes—made in various styles to meet every requirement. . . . This picture of an 80-foot tower shows the most popular type. It has regular stairs with frequent landings. Hand rails and guards make these towers safe for anyone to climb.

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Report of Biological Survey Urges Research in Wild Life

Research in relationships, habits, production and control is essential in the conservation of wild life, says Paul G. Redington, Chief of the United States Biological Survey, in his annual report to the Department of Agriculture. Reservations must be set aside for the long-time benefit of the wild life that is more and more being crowded off its ancient feeding, breeding, and resting grounds by ever-increasing human occupation, he said. Control operations directed to suppress the depredations of predatory wild animals may also be termed an essential form of regulation, necessary both for the conservation of useful and harmless wild life and for economic reasons as well, he said.

Mr. Redington stresses the increasing interest in conservation which constantly makes it more evident that wild life administrators—Federal, state, and local—must be ever alert for the welfare of the species under their guardianship. Their chief responsibility, he says, is to protect the wild life itself.

Forestry Conference in South Carolina

The General Committee of the South Carolina Commercial Forestry Conference, composed of leading lumbermen, wood-using industry representatives, railroad men, farmers, educators and other interests, announces its Conference dates and meeting place as January 20 and 21, 1931, in Columbia. The meeting will deal with the solution of the problems confronting forestry progress and wood-using industries.

Preservation of Florida Everglades Approved

Approval of the creation of a national reservation for the protection of the Florida Everglades, subject to conditions of acquisition and administration that will guarantee the inviolate preservation of the unique plant and animal life of the region was given by the Board of Directors of The American Forestry Association at its regular quarterly meeting in Washington, December 18. The position of the board in respect to a proposed Tropic Everglades National Park, which is now the subject of legislation pending in Congress, is expressed in the following resolution passed by the board.

The interest of The American Forestry Association in the proposed Tropic Everglades National Park lies primarily in the preservation of the unique plant and animal life of the region.

To this end the Board of Directors of The American Forestry Association favors the creation of a national reservation in the Florida Everglades under federal protection.

The Board of Directors of The American Forestry Association recognizes that in this reservation more than in any other area ever discussed in the development of The National Park system, the necessity of preserving inviolate the primitive conditions of the area is outstanding.

Therefore, The American Forestry Association's approval of the proposed Tropic Everglades National Park is contingent upon the restriction of the area to be included in the park to lands which come fully up to the standards of the great National Parks, upon the preservation to the fullest possible degree of the wilderness character of the area, and upon placing the primary emphasis on national as distinguished from local considerations in acquisition of lands and in administration of the park.

WHO'S WHO

Among the Authors in This Issue

D. M. MATTHEWS
(*Forest Exploration in
British North Borneo*)

is one of the best known of American tropical foresters, having served as Conservator of Forests in British North Borneo, Forester for the Philippine Forest Service, Forester for the Tropical Plant Research Foundation, and Consulting Forester to the United Fruit Company. He was graduated from the University of Michigan in 1909, and is now Professor of Forest Management in the School of Forestry and Conservation of that institution.



D. M. Matthews

STEWART HOLBROOK (*Modern Loggers*) is Editor of the *Four L Lumber News* and makes his home in Portland, Oregon. He was born in Vermont where he worked in logging camps and took part in great river drives during his early years. After serving in the Meuse-Argonne with the 303rd Field Artillery he returned to do more logging in British Columbia, taking up his editorial work in 1927.

ADELAIDE BORAH (*Old Trees of Washington*) is a research specialist and writer of note. Several years ago she wrote *Trees of the Bible* for AMERICAN FORESTS. She makes Washington, D. C., her headquarters.

BEN EAST (*Moose Trails of Isle Royale*) is no stranger to the readers of AMERICAN FORESTS, his intensely interesting articles appearing often in its pages. He is Nature Editor of the *Grand Rapids, Michigan, Press*, and conducts an outdoor page for a number of other newspapers in the Lake States. He is a native of Michigan.



Ben East

WILLIAM MCNEEL (*A Forest Page for Boys and Girls*) is Assistant State Club Leader of Wisconsin, making his home at Madison. Through cooperative extension work in agriculture and home economics, he has been particularly active with boys and girls.

JOHN B. WOODS (*Selective Cutting in Western Yellow Pine*) is forester for the Long Bell Lumber Company, at Longview, Washington.

ANNE PIERCE (*Holly Trees for Everyone*) is a New Yorker, and HARRY CHAPIN PLUMMER (*Sueden's Forest Census*) hails from the same place.

WILLIAM MERRIAM ROUSE (*Little Pig Pork*) is a well-known fiction writer, and G. H. COLLINGWOOD (*The Pied Piper of Hammond*) is Forester for The American Forestry Association.

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ADEQUATE FOREST FIRE PROTECTION by federal, state, and other agencies, individually and in cooperation; the REFORESTATION OF DENUDED LANDS, chiefly valuable for timber production or the protection of stream-flow; more extensive PLANTING OF TREES by individuals, companies, municipalities, states, and the federal government; the ELIMINATION OF WASTE in the manufacture and consumption of lumber and forest products; the advancement of SOUND REMEDIAL FOREST LEGISLATION.

The ESTABLISHMENT OF NATIONAL AND STATE FORESTS where local and national interests show them to be desirable; the CONSERVATIVE MANAGEMENT OF PUBLIC AND PRIVATE FORESTS so that they may best serve the permanent needs of our citizens; the development of COMMUNITY FORESTS.

FOREST RECREATION as a growing need in the social development of the nation; the PROTECTION OF FISH AND GAME and other forms of wild life, under sound game laws; the ESTABLISHMENT OF FEDERAL AND STATE GAME PRESERVES and public shooting grounds; STATE AND NATIONAL PARKS and monuments where needed, to protect and perpetuate forest areas and objects of outstanding value; the conservation of America's WILD FLORA and FAUNA.

The EDUCATION OF THE PUBLIC, especially school children, in respect to our forests and our forest needs; a more aggressive policy of RESEARCH AND EDUCATIONAL EXTENSION in the science of forest production, management, and utilization, by the nation, individual states, and agricultural colleges; reforms in present methods of FOREST TAXATION, to the end that timber may be fairly taxed and the growing of timber crops increased.

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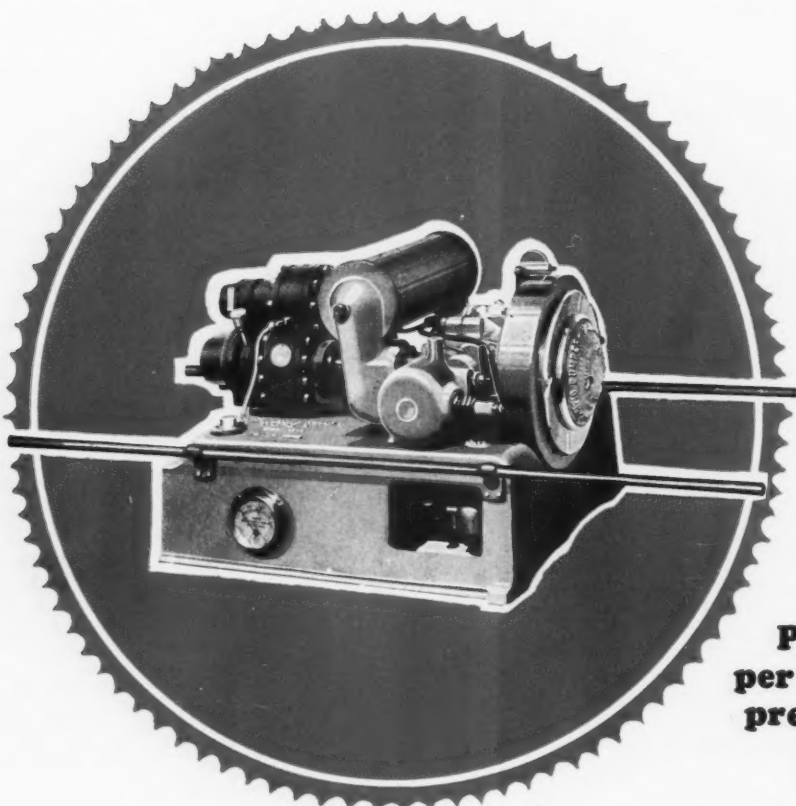
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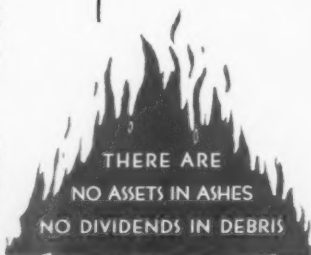
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